PW
J·F '89
Practical Winery & Vineyard

- Blending the 'Bordeaux-5' Grapes in California p. 14
- Boron Deficiency in Vines p. 37
- Whole-Cluster Pressing for Still Wines p. 24
- Computers in Winery Management p. 34

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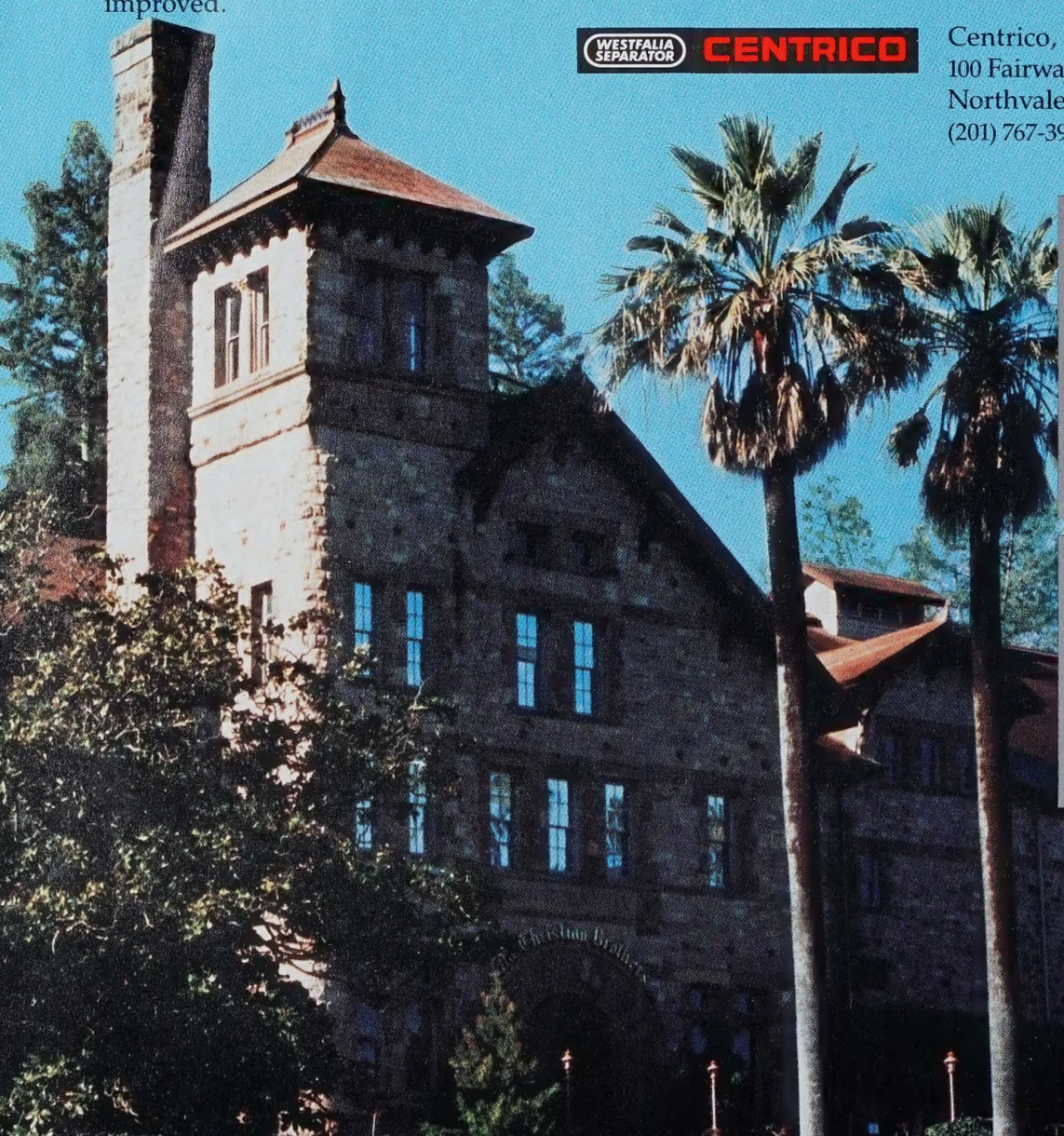

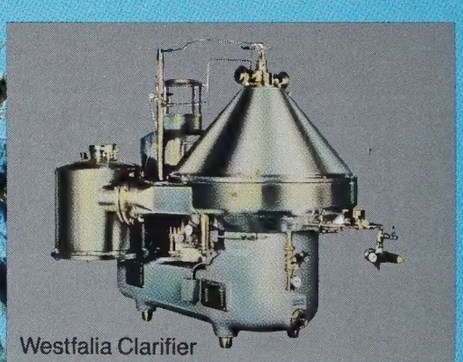

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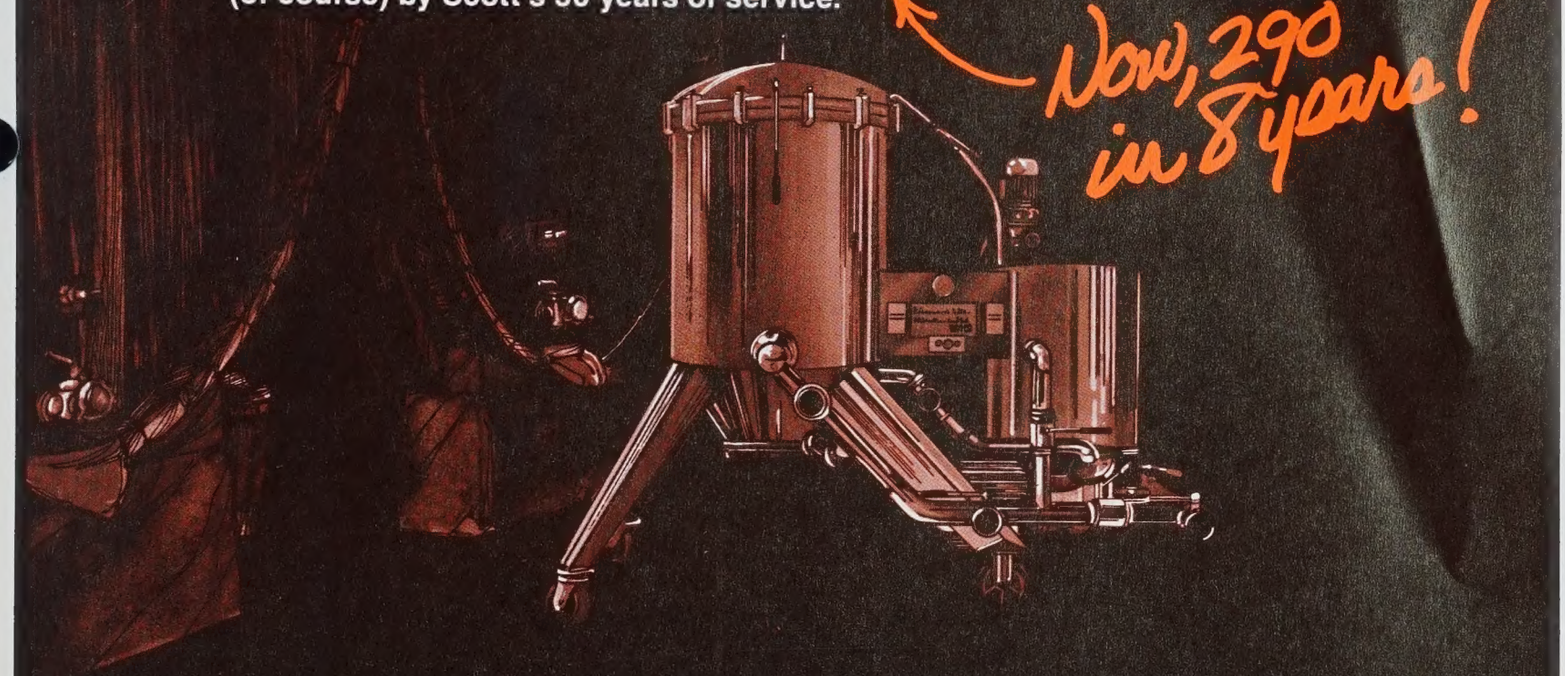

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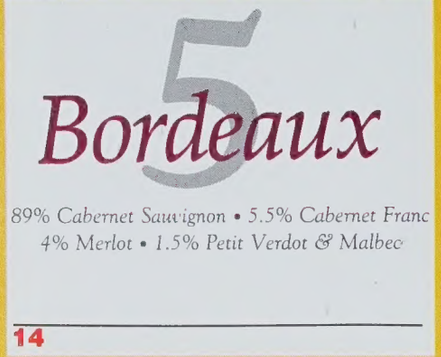

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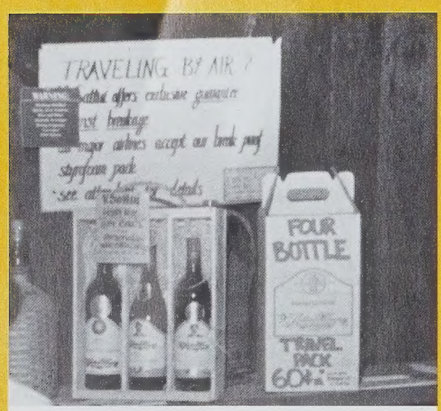

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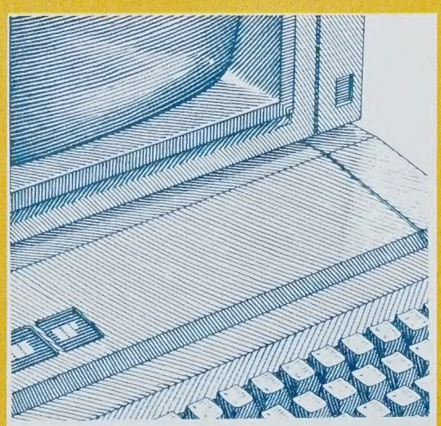

34

Practical Winery & Vineyard

JANUARY / FEBRUARY 1989 VOLUME IX, NO. 5

GRAPEGROWING

12 Payback with Machine Harvesting in a Small Vineyard

37 Increasing Boron Level in Vines . . . . . *Paul W. Skinner*

39 Boron Deficiency in Oregon Vineyards . . . . . *Steve Price*

VARIETAL BLENDING

14 'Bordeaux Five' in California . . . . . *Eleanor & Ray Heald*

WINEMAKING

24 Still Wine: Whole-Cluster Pressing

WINERY MANAGEMENT

34 Survey of Computer Usage . . . . . *Michael Minard*

MARKETING

42 Quiet Preparations for Tasting Room Sales . . . . . *Chris Rota*

44 New Image for Bouchaine . . . . . *Winona Wendth*

54 Personality of a Successful Guerrilla . . . . . *Jay Conrad Levinson*

WINE & FOOD

48 Comparing Young and Older Wines with Food . . . . . *Barbara Lang*

PURCHASING GUIDES

40 Bookshelf

47 Calendar

53 Marketplace

52 Advertiser/Product Service Index

DEPARTMENTS

5 Free Run . . . . . *Stan Hock*

7 Wine & Health . . . . *Dr. Wells Shoemaker*

8 Winery Water & Waste . . . *David Storm*

10 The Wine Lawyer . . *R. Corbin Houchins*

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COVER: Machine Harvesting at Buckingham Valley Vineyards, PA. Photo by Harry Sircerly.

Free Run

Let's Debate

Stan Hock

In 1988, Ted Koppel, host of ABC's popular late night television news program "Nightline," took his show to Jerusalem to tape a town hall-style meeting between Jews and Palestinians. Although the atmosphere was both frosty and contentious (the two camps sat on opposite sides of the meeting hall with Koppel literally sitting on a fence between them), one could argue that something of value was achieved: Jews and Palestinians were able to peacefully air their passionately-held, bitterly opposed views.

I was reminded of this recently while attending a symposium in San Francisco, CA, sponsored by Robert Mondavi Winery. The purpose of the symposium, one of six to be held in the U.S. and abroad, was, in Mondavi's words, "to tell the full truth about the benefits and detriments of wine to the American people."

A vehicle for Mondavi's self-described 'mission' to counter attacks on wine by 'neo-prohibitionist' groups, the symposium featured talks by an array of distinguished speakers, each of whom extolled the positive role of wine in the history of Western culture.

Solomon Katz, an anthropologist, traced the domestication of the grape and the emergence of organized wine production during the Bronze Age. David Pittman, a sociology professor, reported the results of a study that measured how consumers of alcoholic beverages perceive the appropriateness of drinking wine, beer, and spirits in different situations.

A distinguished biologist and nutritionist named Paul Saltman debunked the notion that wine should be viewed as a toxic substance. Mark Keller, an expert on alcohol use and abuse, reviewed wine's role in religious ceremonies through the ages. And Keith Marton, a San Francisco physician, emphasized that there is no conclusive medical evidence supporting the notion that moderate wine consumption poses a health hazard.

These were all interesting, informative, and entertaining presentations. The remark that struck me most forcefully, however, was uttered by the program's final speaker, world-renowned wine writer Hugh Johnson.

In the midst of railing against those who debase wine by defining it as simply another form of alcohol, Johnson muttered that he wished some of said miscreants were present, so that a proper debate might be joined. The audience applauded, and I thought of Ted Koppel sitting on a fence in a Jerusalem auditorium.

Preaching to the Converted

Robert Mondavi is to be commended for assuming the burden of the wine industry's defense against its attackers. When Mondavi speaks of his 'mission' and declares that "wine is the only beverage that feeds the body, soul, and spirit of man," his passion and sincerity are indisputable and his leadership of the industry self-evident.

Yet the problem with Mondavi's symposiums—and with the wine community's overall response to attacks upon it—is that they are a vivid example of 'preaching to the converted'.

The retailers, restaurateurs, hoteliers, and wine writers who attend Mondavi's symposiums already know that wine, consumed in moderation, is a healthful beverage that symbolizes and celebrates life and human community. Nor are they likely to assume the role of missionaries and venture out among the heathen to spread the word.

Americans, most of whom already are indifferent to or suspicious of wine, increasingly are being bombarded with the news that it is one of the many alcoholic beverages that can kill them and disfigure their unborn children. Those of us in the food and beverage industries know these hazards are potentially real only for heavy abusers of the product, but many people, including occasional wine drinkers, don't.

It is to this constituency that Robert Mondavi needs to address his 'mission', not to his brethren in the trade who already share his belief in the inherent goodness of wine. The Wine Institute also should be working to educate the general public, rather than devoting all its energies to behind-the-scenes lobbying efforts in Washington and Sacramento.

(Many vintners believe the Wine Institute in California, cowed by the prospect of product liability lawsuits, has been woefully timid in responding to the assault on wine, thus allowing, among other setbacks, the passage in fall, 1988 of federal legislation mandating permanent health warnings on all domestic and imported alcohol beverage containers.)

How To Respond?

Hugh Johnson's comment started me ruminating: Why shouldn't leaders of the wine industry arrange for a formal, full-scale debate with their counterparts in the anti-alcohol movement?

Such a debate could be televised (San Francisco's public television station, KQED, already has aired an hour-long debate about the Napa Valley Wine Train, an issue of far less import) and certainly would merit prominent coverage by local and, perhaps, national media. I also believe it would accomplish a number of worthy goals, such as:

1. A broader, more productive exchange of ideas between wine producers (and, by extension, other beverage alcohol manufacturers) and those groups lobbying for punitive measures against them.

2. Forcing each side to respond more specifically to the main allegations of the other.

3. Exposing the public to the complex array of medical, legal, and philosophical issues the current controversy embraces, which hopefully would lead to greater citizen participation in policymaking decisions.

Each side in the debate would select two, or perhaps three advocates, one of whom probably would be a doctor or scientist familiar with the medical issues involved. In addition, each side would be allowed to select one member of the panel of questioners, which would consist of three members of the print or electronic media conversant with wine and with the arguments of those agitating for warning labels. A neutral party would select the third panel member.

As in the Presidential debates, questions would be addressed directly to the debaters, with their adversaries allowed a short rebuttal. These are some of the questions I would expect the anti-alcohol speakers to be asked:

1. Experts agree that 10% of alcohol consumers are problem drinkers. Why should manufacturers of alcoholic beverages be held responsible for the aberrant behavior of a small minority, especially since current research indicates that alcoholism may be a phy siologically-based, genetically-transmitted disease? Are you not unfairly confusing use and abuse?

2. Many studies indicate that product warning labels are ineffective in deterring the behavior they warn against. What evidence do you have that warn-

ing labels on bottles of alcohol will deter members of 'high risk' groups from drinking too much?

3. Much of your campaign is based on medical research indicating that overconsumption of alcohol is linked to a variety of diseases, such as cancer, cirrhosis of liver, and Fetal Alcohol Syndrome. But isn't it true that there is no conclusive evidence linking moderate alcohol consumption to such ailments? In fact, is there not substantial evidence that moderate consumption confers a variety of health benefits?

4. Beverage alcohol producers are funding extensive educational campaigns designed to reach groups at high risk from alcohol abuse. Why isn't this a preferable course to a government-enforced warning label, another version of a skull and crossbones that does little except frighten people?

Questions to the wine industry representatives might include:

1. The wine industry touts wine as being a healthful beverage of moderation, and it boasts of its responsible code of advertising. Yet, several of its largest companies continue to produce and market huge amounts of 'rotgut' wine, as well as wine coolers, whose marketing has been targeted to young people. Doesn't this undermine your position that wine is a beverage of moderation and confirm your opponents' charges of irresponsibility?

2. Alcohol-related problems cost this country well over 100 billion dollars per year, yet excise taxes on wine and beer have not been raised in over 35 years. Don't you have the responsibility to shoulder more of the economic and social burden your products, in part, have created?

Conclusion

I believe an open discussion of these and other pertinent questions, within the context of a formal debate, could have a significant impact on current and future public policy initiatives regarding alcohol use and abuse.

Furthermore, it is obviously in the interests of the American wine industry to participate more publically and assertively in the ongoing national 'debate' over alcohol policy. In short, it's time we stopped talking to ourselves and started talking to those who really matter—our opponents and the American people. ■

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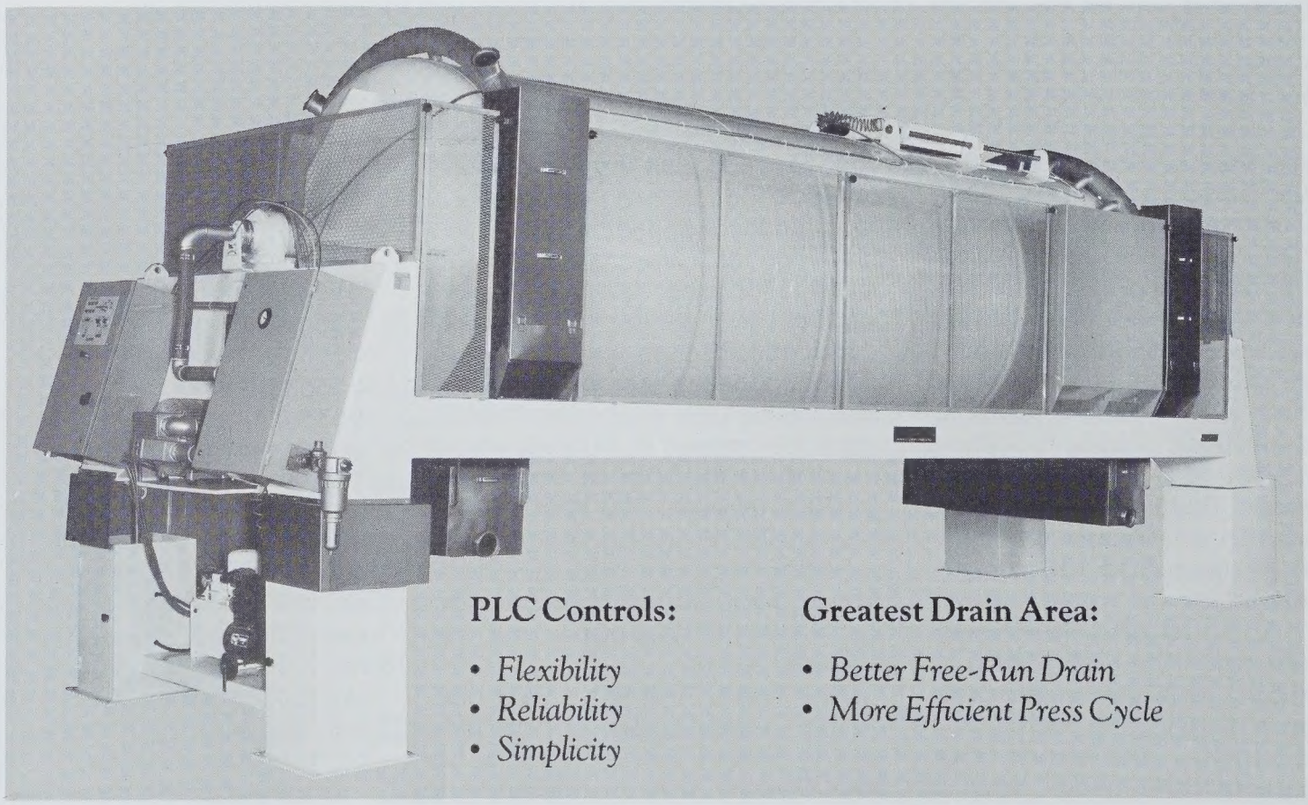

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Wine & Health

Wells Shoemaker, MD

'Food' for Thought

You can't spear it on a fork or smear it on a bun. You can see through it. You pay taxes on it even if you buy it in a grocery store. So, is wine a food?

Paprika and pickles, cinnamon and capers certainly pass as foods, though they have less nutritive value than wine. So, can we make a case?

Near Miss

The architects of Prohibition almost excluded wine from the pogrom, recognizing its traditional place on the dinner table. That wisp of wisdom disappeared in a smoke-filled room on the Eve of Gloom. After Repeal, table wine was peremptorily lumped with all other alcoholic beverages and subjected to the stigma, fees, and restrictions we enjoy today.

Responsible members of the wine industry have emphasized the role of wine as a component of a healthy meal and a moderate, gracious lifestyle. Wine and food interactions have begun to dominate upscale winery presentations, replacing the idolatry of gold medals. Great new cookbooks stress wine within, as well as adjacent to, the main course.

Winery publications and sales people often refer to specific wines as 'food wines'. Although they usually are talking about marketing strategy rather than nutrition, what would be required for wine itself to be a 'food'?

Look It Up

It's entertaining to look up dictionary definitions of short words we have always been able to spell without assistance. A consensus of *Webster's Unabridged* and *The American Heritage* dictionaries requires a 'food' to contain nourishing substances and to be taken into, and be assimilated by, an organism to sustain growth and life.

The nutrients important to people include the calorie-containing categories of fats, proteins, and carbohydrates, as well as vitamins and minerals.

All wines contain carbohydrate in the form of ethanol, and some wines also contribute calories in the form of residual natural sugar. Alcohol generates seven calories/gram; sugar, four calories/gram.

Representative Caloric Values of Wines

Calories

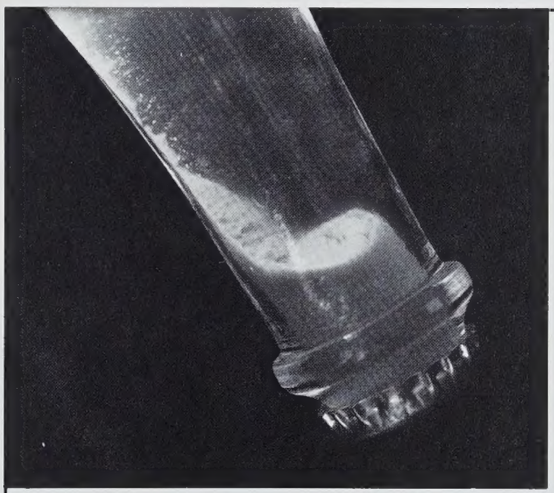
160 – 6-oz dry red (12% Alc.)
140 – 6-oz Riesling (10% Alc., 2% R.S.)
190 6-oz late harvest Zinfandel (15% Alc.)
100 – 2-oz Port (20% Alc., 8% R.S.)
120 – 6-oz whole cow's milk
86 – 6-oz apple juice (12% sugar)

These 100 to 200 calories are insignificant compared to the 3,000 to 5,000 calories a vigorous adult burns daily, but they may make a significant contribution to the diet of an ill or sedentary person, sparing the consumption of body protein or fat stores to supply bodily energy needs.

Wine does not contain any fat (even though some of us keep trying to make buttery Chardonnays), and its protein content is limited to the odd milligram (unlikely to require dental floss).

Vitamins are organic chemicals, not producible by the human body, that are required for efficient enzyme functions. Vitamin-rich foods (and funny-shaped pills) receive measures of adoration rarely surpassed even by Middle Eastern

Continued on page 51



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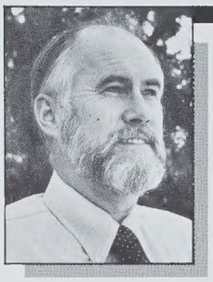

Winery Water & Waste

D.R. Storm, Ph.D, P.E.

V&E; Say It With A Song

I have observed that there is very little music or poetry associated with the growing of grapes or the production of wine. You would think that all the history, romance and mystery surrounding a millennia or so of wine production would have spawned a plethora of ballads, vineyard ditties and cellar psalms, but all I can think of is "Days of Wine and Roses."

While on my tractor last summer, during a particularly emotional powdery mildew eradication, I gave birth to the following lyrics:

'Oh, Bayleton'

(fits the music for "Oh, Tannenbaum")

Oh Bayleton, Oh Bayleton, your spray plume is so handsome;
My mildew cringes on the vine from a pesticide assault so fine.
But, Bayleton, my Bayleton, I think I still need sulfur—
The mites and hoppers hate it so, it sears my eyes and costs so low.
So Bayleton, my Bayleton, retain your strength forever.

Coping With Section 404 of the Clean Water Act

Wetlands and Wineries

There are many legal definitions of a 'wetland'. Most wineries will probably never have to concern themselves with satisfying the rather strict regulations governing wetland identification, delineation, and protection.

Whether a wetland is encroached upon by a new winery construction or by the expansion of an existing winery, regulatory compliance requires the same permit approval process.

Fortunately, there is a size minimum below which federal and state governments do not have jurisdiction. Many states have adopted wetland filling and encroachment regulations and definitions to fit their own set of hydrologic and physiographic circumstances. State wetland law can replace federal statutes *only* if the state law is equal to or more restrictive in substance than U.S. statutes.

Exemptions

Normal farming (silviculture, ranching, viticulture, etc.) activities, including plowing, seeding, cultivating, harvesting, minor drainage, and soil and water conservation practices are all exempt from Section 404. Also exempt are the construction and maintenance of farm, stockwater, and irrigation ponds and ditches and the maintenance of drainage ditches. [See 33 U.S. Code, Para. 1344(f).[1]

Generally, wetland areas of less than one acre are statutorily exempt. Areas greater than one acre, but less than ten acres, may be exempt, but it depends upon the quality and classification of the particular wetland. The latter situation must be dealt with by petition.

Definitions

Even among federal agencies there is not unanimous agreement on the definition of what is and what is not a wetland. For the sake of simplicity, the following legal definition is offered:

"The term wetlands means those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as slough, potholes, wet

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meadows, river overflows, mudflats and natural ponds."[2]

The Permit Process

If it is decided that your winery expansion will encroach upon or require the alteration and/or filling of a wetland, a permit must be obtained from the Corps of Engineers, the lead federal agency in the administration of Section 404 of the Clean Water Act.

This step-by-step process first requires a delineation of the wetland area, which is not as easy as it might appear. There are three parameters used to establish the limits and boundaries of a wetland:

1) Soils (Do the soils possess hydric or wetland characteristics?)

2) Vegetation (Is the plant community composed mainly of hydrophytic or water-loving species?)

3) Hydrologic Evidence (Is there evidence of saturation or inundation of the soils?)

Once the Corps of Engineers agrees on the limits of the area, an alternatives analysis and a mitigation plan are prepared. Mitigation can be 'avoidance', or creation of wetlands in kind or with higher values. The alternatives analysis examines other options for the project. The wetlands law deals with economic realities in a fair manner. Economic considerations receive the highest priority in the final decision on alternatives to the project.

Horror Stories

There are many projects that have proceeded without benefit of a wetlands permit, some in which the omission was willful and flagrant, others where the developer was apparently totally ignorant of the law and the permit process. Some of these cases are in litigation.

Some wetland disputes in the west involve lands that became permanent wetlands because of flood irrigation practices. While the 'wetland creation' resulted from agricultural practices (which are exempt), the fact that impending changes in land use (to residential subdivision) were planned opens the door slightly for the state or federal government to claim jurisdiction.

The use of any wetland area by migrant fowl, or use of a wetland as habitat by an endangered species, places the wetland in the category of 'waters of the U.S.', and no statutory exemptions are permitted regardless of size or land use practice.

Why Preferential Treatment for Wetlands?

Unfortunately, wetland areas of the U.S. are disappearing at an unacceptably high rate. Preserving wetlands is similar in concept to protecting soil resources in a vineyard or in providing erosion control everywhere man encroaches upon the soil and subjects it to disturbance.

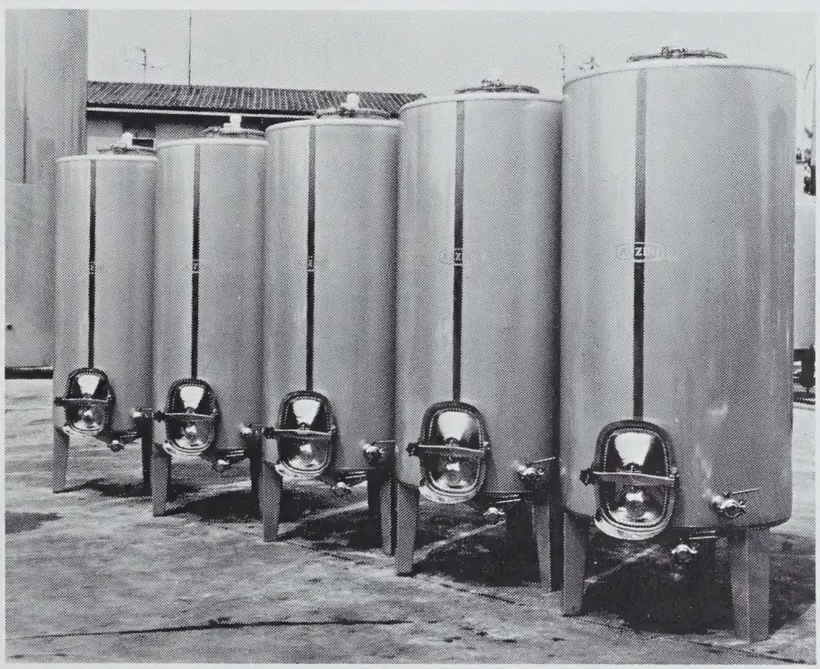
From my recollection of pedologic processes, it takes over 2,000 years to produce one inch of soil. With removal of vegetative cover, that soil can be eroded and transported to the ocean by a single storm. Some wetland areas like the Okeefenokee Swamp in Florida, have been declared national treasures. We need to *Save the Whales*, as the ever present bumper sticker proclaims, but we also need to preserve wetlands. ■

References

(1) 33 USC Code Para. 1344(f) [Exemptions to regulation under Section 404 of the Clean Water Act]

(2) Federal Executive Order 11990, Wetlands. May, 1977.

David Storm is a consulting Sanitary Engineer and owner of Winters Winery.



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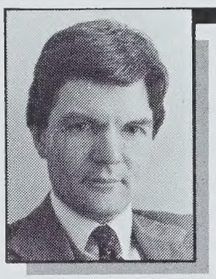

The Wine Lawyer

R. Corbin Houchins

Three Recent Developments

This is a good time to note some recent changes in the law.

Changing Concept of Consumer Information

Change is occurring rather rapidly in the area of product safety and the duty to warn.

In a previous column (*PW&V*, Sept/Oct 1988) I observed that no one could say with certainty whether the law imposed a duty on producers to say anything on their labels about the possible effects on fetuses of alcohol consumption. Congress has now changed the situation profoundly by specifying a mandatory warning.

An amended version of the warning label bill, Senate #2047, became part of the omnibus anti-drug bill in the last days of the 100th Congress. The good news is that it does not enact the five originally proposed rotating warnings, which were scientifically dubious, to say the least.

One year after formal enactment (Nov. 18, 1988), no one may "manufacture, import, or bottle for sale or distribution in the United States" any alcoholic beverage whose container does not bear, in a conspicuous place on the label to be determined by the Secretary of the Treasury, the following statement:

GOVERNMENT WARNING: (1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects. (2) Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery, and may cause health problems.

The new law does not explain what is meant by 'manufacturing' a wine without a warning label (most of us are not doing primary fermentation in the bottle), but the part about bottling for domestic sale is clear enough. Oddly, it looks as if the U.S. distributor of imports cannot comply by adding a label in the warehouse if the foreign wine lacks it. Presumably, the BATF will allow strip labels to be added while the product is in customs bond, on the theory that it would not yet have been imported.

Box Score

Some industry observers see two possible benefits in this law.

One is that it prevents the states from enacting a patchwork of mutually contradictory requirements. The other is that it appears to provide a 'safe harbor' for wineries which comply with the federal labelling requirment by implying that the mandatory label will be legally sufficient to warn people of the hazards referred to.

Thankfully, the new federal requirement is not merely an additional layer atop whatever state warning label laws may have been in the offing. The new federal statute forbids the states to require ***any*** other statement relating to alcoholic beverages and health on a bottle, case or other package.

Unfortunately, the federal law leaves the state free to require label statements

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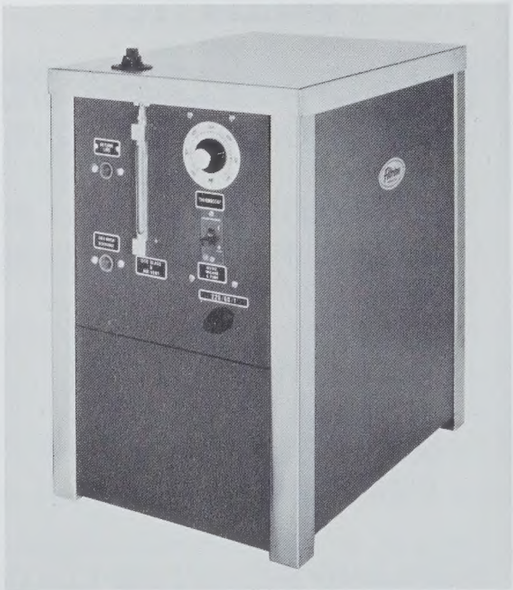

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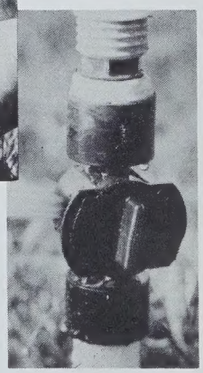

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that are not related to health, and any statement at all on media other than bottles and the cartons that contain them. Thus, a different warning on safety, as distinct from health, arguably could be required on labels by state law, and state fetal alcohol signs at licensed premises are unaffected.

In the area of 'safe harbor', the picture is less clear.

Wineries can, of course, argue that the Congress has set a standard which fully discharges the obligation to warn, and that argument may deter some litigation. My guess, however, is that plaintiffs will ask courts to set it higher, and I would not venture to predict the outcomes, which will probably vary by state.

Distributor Termination

Many contracts contain provisions in which the parties agree on what law will be applied in interpreting the agreement.

'Choice of law' clauses have been controversial among legal scholars, with most scholars believing that the parties to the agreement are free to choose the law of any state, or at least any state with which the contract has some connection.

The contrary view is that a court which has jurisdiction of a suit under the contract has the power to select the law (normally choosing its own), regardless of what the parties agreed to.

Selecting the law of one state or another can determine the outcome of a distributor termination case. Some suppliers have negotiated clauses choosing the law of a state, such as California, which does not normally require cause for termination of the relationship.

If the distributor is in a state which does require cause, a dispute regarding the choice of law inevitably arises upon termination of such contracts.

In the summer of 1988 the United States Court of Appeals for the Ninth Circuit, which includes California, decided that a provision in a distribution agreement in which the parties selected California law did not protect the winery against application of the law of Massachusetts, where the distributor was located.

Without going into the technicalities of the decision, one can draw the lesson that boilerplate choice of law provisions do not solve the problem of so-called franchise laws.

Affirmation, Round II

As previously reported, a federal court has ruled that state affirmation laws which influence prices in other states are invalid because they violate the Commerce Clause of the Constitution.

As of this writing, the state of Connecticut has asked the Supreme Court to review the decision. If it declines the review, that kind of affirmation will be unlawful in the Second Circuit, which covers the northeastern United States. If it reviews and affirms, affirmation should be dead nationally. ■

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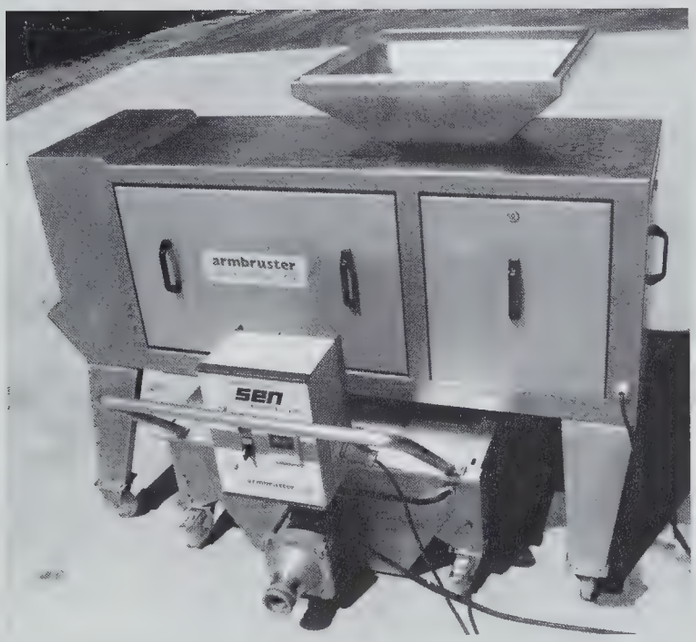

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Machine Harvesting

Payback on a Small Vineyard

Most wine grape growers take it for granted that machine harvesting is feasible, efficient, and economical only in larger vineyards. However, the example of Buckingham Valley Vineyards in Bucks County, PA suggests otherwise.

This vineyard, which is planted to ten different hybrid varieties, currently contains 17.5 bearing acres spaced 6x9, with another 4.5 acres due to be in full production by 1991. In 1984 and 1985, all picking was done by hand at a cost per ton of $82 and $88.50, respectively.

In 1986, a mechanical harvester was obtained on a trial basis (at no cost) and 65 tons of grapes were machine-picked. Costs for labor and tractor time totalled $23/ton. The 40 tons of fruit that were hand-picked that year cost $91/ton. (Costs for hand-harvested grapes included picking, pick-up from vineyard rows, handling, dumping and washing of lugs, portable toilets, insurance, supervision, capitalization of equipment, etc.)

Beginning in 1987, all fruit was picked by a Braud 524 pull-along mechanical harvester. The Braud machine can hold one ton of grapes in one bin and, alternately, can convey grapes to a gondola traveling in an adjacent row.

The machine moves at a speed of 1.5 miles/hour and can harvest between three and six tons/hour. At Buckingham Valley, only one grape variety is picked at a time, over a one or two-day period.

Based on 1986 costs, plus 5% inflation, the 112-ton crop of 1987, if harvested by hand, would have cost $95.50/ton. Using the Braud mechanical harvester, actual picking costs were $102.60/ton, based on the $41,000 cost of the machine (amortized over five years at 9.5% interest), plus labor and tractor time.

In 1988, costs for 108 tons of hand-picked fruit would have been $100.28/ton, compared to actual costs for the same amount of machine-picked fruit of $105/ton.

Costs for harvesting fruit by hand in 1989 (120 tons projected) and 1990 (125 tons projected) are estimated at $105.26/ton and $110.52/ton, respectively. Costs for harvesting the same amounts of fruit by machine in these two years are estimated at $95.92/ton and $92.48/ton.

As these figure indicate, the economic benefits of mechanical harvesting accrue as time goes on. They are particularly significant after the fifth year, when the machine has been entirely paid off and the only harvest costs are labor, tractor time, and maintenance (estimated in this vineyard at less than $1,000/year).

Machine-picking of grapes is an especially appealing option in affluent, high-employment viticultural areas such as Bucks County, where there is no ready pool of farm labor and growers must pay pickers a premium.

The high cost of farm labor can be particularly burdensome since there may be only 12 days of actual picking during a 35 to 40-day harvest period.

The owners of Buckingham Valley Vineyards, prior to converting exclusively to mechanical harvesting, paid pickers more than $1.20/34-lb lug box, and also paid bonuses for heat, cold, rain, and small-bunch grapes. ■

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SYNERGISM IN BLENDING

Eleanor & Ray Heald

Red wines from the Bordeaux region of France result from the blending of wines produced from five different grape varieties: principally Cabernet Sauvignon, Merlot, and Cabernet Franc, with much smaller amounts of Petit Verdot and Malbec. Interestingly, Petit Verdot and Malbec were considered major varieties in the 18th and 19th centuries wheras, in the wine literature prior to 1840, there is little reference to Cabernet Sauvignon.

Centuries of experience have afforded Bordeaux chateau owners the luxury of selecting only those grape varieties that perform well on their soil and in their particular microclimate.

In the Medoc region of Bordeaux, typical chateau plantings fall within the following parameters: Cabernet Sauvignon, 60% to 65%; Merlot, 20% to 25%; Cabernet Franc, 20% to 25%; and Petit Verdot, 3% to 8%. Malbec, in large measure, has been replanted to one of the other major red varieties and is no longer used in the traditional Medoc blend.

Cabernet Sauvignon is favored in the Graves region of Bordeaux, but in somewhat smaller percentages than in the Medoc, with Merlot and Cabernet Franc taking a more dominant role.

In the St. Emilion region, planting percentages run close to 50% Merlot and 50% Cabernet Franc, with Cabernet Sauvignon in a minor role. In the Pomerol region, Merlot runs closer to 80% with Cabernet Franc about 20%.

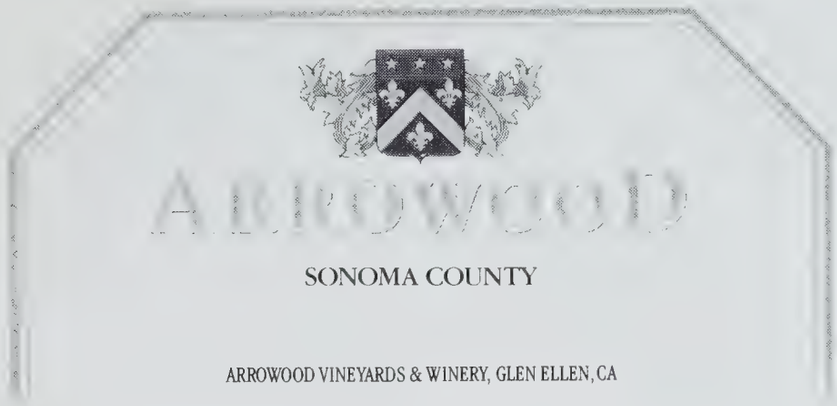
Since Bordeaux rarely has a 'perfect' vintage, planting percentages are frequently quite different from the actual varietal percentages in the bottled wines.

Until 1978, the ideal California Cabernet Sauvignon wine was made entirely from Cabernet Sauvignon grapes. Most California Cabernet Sauvignons followed this model closely because the Bordeaux blending varieties were not widely planted.

The increase in California's plantings of these varieties has been dramatic. For example, in 1962 only three acres of Merlot existed in the entire state. In 1964, Sterling Vineyards planted 12 more, bringing the state total to 15 acres. (Sterling Vineyards released a varietal Merlot in 1969, following the multi-vintage blend released in 1968 by Louis Martini Winery.) By 1987, however, there were 3,330 acres of Merlot planted in California.

Cabernet Franc was first planted in California in 1879, by Gustave Niebaum, but not until 1982 was there a sizable production of the grape in the Napa Valley.

Several California wineries now are experimenting with the traditional Bordeaux blending varieties. If not yet totally satisfied with the results, they clearly are fascinated by the synergism of Bordeaux-style blending.



Owner/Winemaker: Dick Arrowood

Dick Arrowood has worked with all five Bordeaux varieties for several years. In 1987, he decided to separately ferment and barrel age each of them, with the idea of releasing a blend of all five.

"I may decide to eliminate Petit Verdot in some years from the final blend," says Arrowood, "because it's tannic, astringent, and inky. In years when we're a little short on structure or color, Petit Verdot might help.

"Comments have been made that Bordeaux-style wines are a marketing ploy and that some wineries are trying to 'out-Cabernet' the next guy. That's not true. What we're seeing is a renaissance of California red wine making. The sister varieties add nuances and harmonize the components."

Wine Style

Arrowood believes that a winemaker cannot create a good symbiotic relationship between varietal components when blending is done before ageing. "I have a philosophy that says it's easier to blend than it is to unblend. Cabernet Sauvignon must be the framework upon which any Bordeaux-style blend is built.

"Many of us California wineries rolled over and played dead when the 75% rule was proposed. The consumer recognizes Cabernet Sauvignon on the label and has confidence. It's time that as vintners we return to the BATF to obtain a rule revision for Bordeaux blends. In my opinion, the rule might be revised to 60% to 65% Cabernet Sauvignon, with blending restricted to the sister varieties.

"Lacking the chateau recognition enjoyed by the Bordeaux producers, this is a necessity, because proprietary wines don't have the consumer recognition that many producers would like you to believe they do. To me, a wine labeled simply 'Red Table Wine' that contains less than 75% Cabernet Sauvignon is not the way to go."

While Arrowood's components continue to age separately, he sees the Cabernet Sauvignon developing cherry and plummy notes within a framework that's still quite tannic. "I'm not an advocate of 100% Cabernet Sauvignon," Arrowood says. "It takes too long to become approachable. Claims have been made that extended maceration softens the wine, but while that may be true, we aren't certain of the long-term ageing effects of extended maceration."

Arrowood's Merlot offers lush fruitiness and a soft, supple middle. The Malbec is even softer and has a plump middle. Together, they contribute middle body to the wine. The Cabernet Franc lends intense, aromatic fruit and a gentle herbaceousness. "With all its forward characteristics," says Arrowood, "it appears that when Cabernet Franc exceeds 10% of the blend, it tends to take over. The long-term effects of Cabernet Franc in the blend are not totally understood by winemakers."

Grapegrowing

Nine growers supply more than 90% of Arrowood's grapes from Alexander Valley, Sonoma County. The remainder come from Knight's Valley. Cabernet Sauvignon comes from seven growers.

The majority of all five varieties are cane-pruned on a four-wire trellis with one cross arm and two fruiting wires on lean, light soils.

Picking decisions are based primarily on taste. Harvest window parameters are based on physiological maturity measured by soluble solids, TA, and pH. "We work closely with the growers to control crop levels," Arrowood says. "The vigor of the vine related to the rootstock, the growing conditions, vine age, pruning methods, and conditions of the overall growing season must all be taken into consideration.

"I always use this quote from my viticulture professor, Vince Petrucci, when people start to talk crop yield averages: 'A given vine in a given vintage will produce a given quantity of quality fruit.' What this means is that you can overcrop at one ton/acre and also undercrop at the same level."

While contending that 'average' is a dangerous word, Arrowood sees three to five tons/acre as a realistic goal for all five Bordeaux varieties.

The Malbec from the Alexander Valley floor is picked first. Merlot is picked next from Knights Valley and the northern Russian River. Cabernet Sauvignon and Cabernet Franc are picked next and Petit Verdot in southern Knights Valley is picked last.

"The differences in character among the lots of the five varieties come from the multiplicity of vineyards more than from the vinicultural differences among the varieties," Arrowood states. "In California, the climate is more important than the soil. Microclimates due to hills, valleys, and undulations make it possible to grow red grapes and white grapes in close proximity.

"Some winemakers say it's impossible to grow all five Bordeaux varieties well. If you can grow Cabernet Sauvignon, you can also grow the other four varieties. You may not like what they bring to the blend, but they can grow and ripen.

"In California, we should be looking more to overall balance. Perhaps this can best be done by using all five of the Bordeaux varieties."

Winemaking

Arrowood employs separate-lot, stainless steel fermentations for all varieties. The wines are pumped-over two or three times/day. Maximum cap temperature is 90°F with must temperature between 80° and 85°F. At dryness, the wines are pressed, with the exception of Cabernet Sauvignon. Depending on fruit quality, Cabernet Sauvignon maceration, under CO_2 pressure, may extend 30 to 45 days after dryness.

Malolactic fermentation completes in tank (inoculation is done midway through alcoholic fermentation) before the wine is transferred to a mixture of 25% new American oak and 75% center of France barrels ranging in age from new to three years old.

The 1987 blend will be made 20 to 22 months after barreling and just prior to pre-bottling clarification, if any (three to four egg whites/barrel.

Release to market is planned for approximately six months after bottling. Scheduled release for the 1987 blend is September, 1990.

Bellerose Vineyard

1985

Sonoma County

Cuvée Bellerose

89% Cabernet Sauvignon • 5.5% Cabernet Franc
4% Merlot • 1.5% Petit Verdot & Malbec

BELLEROSE VINEYARD
DRY CREEK VALLEY,
HEALDSBURG, CALIFORNIA

Owner/Winemaker: Charles Richard

Bellerose Vineyard is a family-owned and operated Dry Creek Valley wine estate specializing in three 'Bordeaux-style' wines: Cuvee Bellerose, Merlot and Sauvignon Blanc.

Intrigued by the disparity between top Bordeaux wines and most California Cabernet Sauvignon, Charles Richard began investigating Bordelaise wine-growing techniques, which eventually led him to northern Sonoma County in 1978.

"The style of Bordeaux wines was influenced significantly by its cool microclimate," concluded Richard, "and I was convinced that in order to make true 'Bordeaux-style' wines, our vineyards would have to be located in a relatively cool microclimate. The lower part of Dry Creek Valley, where Bellerose is located, is such a place."

Richard maintains that the same factors which define Bordeaux wines apply to his 'Bordeaux-style': employing grape varieties that are suitable to the climate and soils and doing as little as possible to the wine in the winery.

Wine Style

The style of Cuvée Bellerose reflects a 'chateau-concept' approach to winemaking defined as using only estate-grown wines blended from the five classic Bordeaux red grape varieties that excel in a cool microclimate in order to achieve complexity, balance, and longevity.

"Each of the five varietals contributes its own character," says Richard, "thereby adding complexity to the Medoc-style blend."

The percentages of Cabernet Sauvignon have ranged from 70% in 1980 to 89% in 1985. Richard associates Cabernet Sauvignon with green olive, black cherry, and subtle herbaceous characters. Cabernet Franc contributes blackberry and raspberry tones. Malbec adds depth of color, spicy fruit, and a peppery component. Petit Verdot adds color, body, and tannin. Merlot softens the wine on the palate and adds a youthful fruitiness.

Richard maintains that the 'Bordeaux-style' of Cuvée Bellerose is the result of Bellerose's relatively cool microclimate and varied soil types. "We did not simply contrive the style," says Richard. "Our style evolved first and foremost from exisiting conditions in the vineyards, not primarily because of our blending techniques. We follow the dictates of the climate and soils first, and the market second."

Grapegrowing

"The Bordelais discovered long ago that, in their cool region in most years, Cabernet Sauvignon, by itself, did not produce a satisfactory wine, due to its tendency to ripen late. Too often, the

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fruit was not sufficiently ripe.

"They also discovered that the other four varieties ripened earlier and most often, well ahead of the onset of cooler or rainy weather. The earlier ripening varieties helped insure a balanced vintage—in fact, they were like an 'insurance crop'."

There were 40 acres planted when Richard bought the property in 1978; 20 acres each of Cabernet Sauvignon and Merlot. In 1980, Cabernet Franc, Petit Verdot and Malbec were planted on hillside Manzanita soil, a reddish, clay-loam.

Cabernet Sauvignon is planted on Haire benchland soils (reddish-brown with a gravelly-loam substrate), and on Yolo I, a sandy, gravelly-loam. Three acres of Merlot remain on Yolo II, a deep, fertile clay-loam. All vines, except those planted on the benchlands, are on 10° to 12° slopes.

Bellerose has 17 acres of Cabernet Sauvignon, nine to 20 years old yielding, on average, less than three tons/acre. Three acres of 16-year-old Merlot yields 3.5 tons/acre. Four acres of eight-year-old Cabernet Franc yields two tons/acre. Approximately 0.75 acre of eight-year-old Malbec yields three tons/acre, while 1.25 acres of eight-year-old Petit Verdot yields 2.5 tons/acre.

The most challenging variety for Richard to grow is Merlot, which tends to shatter during bloom if there is excessive heat. Merlot is gradually being replanted on SO4 rootstock. Most of the original block of Merlot vines on St. George rootstock had a high incidence of leaf roll virus and has been uprooted.

Richard believes that Cabernet Sauvignon grows best on well-drained, sandy, gravelly soils, while Merlot is more successful on deep, heavy clay soils. As a long-term project, Richard is replacing Cabernet Sauvignon located on clay soils with Merlot and moving Cabernet Sauvignon to lighter, better-drained soils.

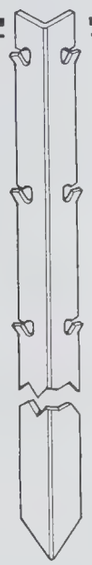
Harvest typically begins the first or second week of September and continues through the middle of October. Malbec is picked first, with an average of 23° Brix, 0.80 TA, and 3.4 pH. Cabernet Franc is picked during the second week of September with an average 23° Brix, 0.80 TA, and 3.5 pH. Petit Verdot is harvested during the second and third weeks of September at 22° Brix, 0.80 TA, and 3.4 pH. Merlot is picked in mid-to-late September at 22° to 23° Brix, 0.85 to 0.90 TA, and 3.4 pH.

A small block of Cabernet Sauvignon on Yolo I generally is harvested before Merlot; the remainder is harvested from late September through mid-October at an average of 22° to 23° Brix, 0.90 TA, and 3.3 to 3.4 pH.

Winemaking

All lots are fermented separately in 8x8-foot, stainless steel tanks to maximize skin contact and maceration. The tanks have a 30-inch diameter top manhole to facilitate punch-down. Maximum fermentation temperature is 85°F. A thorough mixing is achieved by a combination of pump-over followed by punch-down. After dryness, the tank is sealed, and maceration continues for a maximum of 20 to 25 days.

After malolactic fermentation is completed in tank, the wines are aged 12 to 20 months in new to six-year-old center of France oak barrels. With the help of consultant Lloyd Chan, blending is accomplished in December one year after harvest. The wine is egg white fined, if necessary. In most years, the wine is returned to barrels after blending. It is bottled in July or August following the assemblage and is then bottle-aged one to 1.5 years before release.



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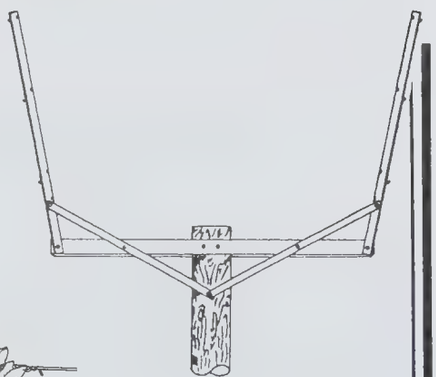

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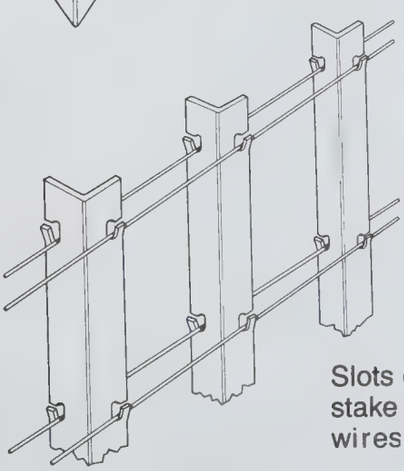

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Winemaker: Lester Hardy

"With the Bordeaux-style wines, we are limited by certain stylistic expectations that we have as producers and that consumers have in the marketplace," states Lester Hardy.

"I'm convinced more now than ever before that wonderful wines can be made turning the whole order of blending varieties upside down. They would be different, unfamiliar wines, and we might not like them because they would be much more difficult to sell.

Wine Style

"The blend of the five Bordeaux varieties, Cain Five, will emphasize the marriage of Cabernet Sauvignon and Merlot, although Cabernet Sauvignon will constitute more than half the blend. Cabernet Sauvignon provides the structure which holds the other elements together. It is most complex in aroma and flavor, yet slowest to develop."

Hardy briefly assesses the other four varieties as follows: "Merlot broadens the palate impression of Cabernet Sauvignon, while contributing a fleshier, more expansive mouthfeel and a subtle perfume of strawberries and raspberries. Cabernet Franc has a strong, heady aroma that emphasizes the cherry and bell pepper character of Cabernet Sauvignon. Malbec highlights the wine's fruit intensity with raspberry flavors reminiscent of Zinfandel. Small amounts of the intensely-colored Petit Verdot add complexity to the aroma and length to the finish of the blend."

Grapegrowing

Although each variety grows differently, light, well-drained soils seem appropriate for all five. "In some circumstances, I have seen good Merlot from light, gravelly soil and good Cabernet Sauvignon from heavy, rich soils, contrary to experience in Bordeaux," Hardy claims.

"People get into difficulty when they fail to consider the total environment. Soil and climate should be considered together when making decisions about where to plant. We have a more generous climate than the Bordelais and therefore we can get away with being less particular about soils, but both will always have an impact on the quality of wine, in different ways for each variety."

Hardy believes another important factor is the availability of heat-treated, virus-free vines for Cabernet Sauvignon, Merlot, and Cabernet Franc. (They are less available for Malbec and basically nonexistent for Petit Verdot.) The growing habits of the plant are significantly affected by the type of wood used for planting.

"We do not have the experience in Napa Valley to draw any broad conclusions about the viticulture of each of the Bordeaux varieties," Hardy asserts. "It seems fairly clear that Petit Verdot in its untreated, diseased form, which is the only way we have it in California, does not achieve the same sugar levels as the other Bordeaux varieties.

"Even if you choose to pick Petit Verdot at 21° Brix, it is the last to mature. We don't know if this would be true if we had it in a heat-treated, virus-free form. We can't spend 300 years to draw these conclusions—we have to make wine and sell wine tomorrow—so we need to continue thoughtful research into the growing habits of these vines."

Although the estate has all five Bordeaux varieties planted, not all the fruit for the 1985 Cain Five came from the estate. In the near future, all five varieties will be available from the estate, but Hardy suggests the winery may elect not to use 100% estate fruit.

Cain Cellar's estate plantings consist of 50 acres of Cabernet Sauvignon and 5 acres of Cabernet Franc planted in 1980-81 and cordon-trained on a three-wire trellis; 20 acres of Merlot; 2.5 acres of Malbec; and 1.5 acres of Petit Verdot. The latter three varieties were all in their fourth leaf in 1988, so their training systems can still be modified.

It appears that Malbec and Petit Verdot may require cane pruning. They are the

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varieties most sensitive during bloom and set and, except in rare vintages, are shy bearers. Cabernet Franc, the most vigorous variety, benefits from shoot thinning to reduce the canopy.

Hardy says that the range of pH and TA in all five varieties is too variable to allow him to designate a precise harvest window. However, a rapid increase in pH of any variety indicates that it should be harvested. Grape maturity at harvest is critical to stylistic goals. Therefore, Hardy prefers to harvest based on flavor of the grapes and appearance of the vine rather than by the numbers they give.

Merlot is harvested first, at 22° to 23° Brix, in September and yields an average of three tons/acre. Cabernet Sauvignon is picked at 21.5° to 23.5° Brix beginning the second week of September and continuing through to the end of harvest. Yield is 2.5 tons/acre.

Malbec is harvested at 22.5° to 23.5° Brix at 1.5 tons/acre during the third week of September. Cabernet Franc is harvested at 23° to 24° Brix at 3.5 tons/acre during the second week of September. Its' greater ripeness heightens the aromatics of the blend. The last to ripen is Petit Verdot, which reaches biological maturity at 21° to 22° Brix, but is not harvested until the second week of October.

Winemaking

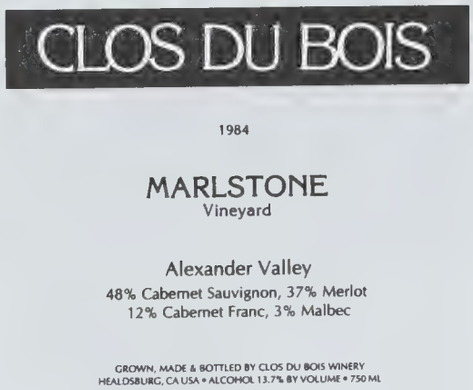
"Once the fruit is harvested, fermentation is the most critical step in the life of the wine," Hardy says. "We ferment each lot individually to extract everything desirable while avoiding everything undesirable. Our estate-grown fruit does not require extended maceration.

"We pump-over two or three times/day to get early extraction of flavor and press off the skins anywhere between 5 and 35 days based on the taste of individual tanks."

Malolactic fermentation is completed in the tank, and the individual lots are barrel-aged (⅓ new oak) before blending in late Fall, one year after harvest. The wine is racked, with splashing, three or four times the first year and three times in the second year.

The blend is aged an additional seven to eight months after blending in a cooper's selection of fine-grained, medium-toast barrels from the center of France. If necessary, an egg white/gelatin fining is made after blending is complete.

The wine is scheduled for release two years after bottling.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Winemaker: John Hawley

Marlstone, Clos du Bois' proprietary blend of Cabernet Sauvignon, Merlot, Cabernet Franc, and Malbec, was first produced in 1978. In 1988, the winery T-budded four acres of Petit Verdot and expects to harvest half a crop in 1989.

John Hawley likes the Marlstone blending parameters as they currently exist, but will experiment with Petit Verdot when it becomes available.

Wine Style

"Cabernet Sauvignon generally comprises over 50% of the blend. It provides structure and backbone enhancing the

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wine's ageing potential," Hawley states. "Our fruit comes from Alexander Valley and has softer tannins than Napa Valley Cabernet Sauvignon. The blend must be formulated with this in mind.

"Merlot from Alexander Valley often has larger berries than the Cabernet Sauvignon. On its own, it contributes herbaceous, raspberry, plummy fruit aromas and flavors, along with richness and body.

"Our Cabernet Franc tends to be fairly delicate and light. In addition to its berry chracter it can be weedy, grassy, and herbaceous, but quite often it is spicy and black peppery. It adds softness like Merlot and gives complexity of flavor to the blend.

"Malbec beefs up the color of the blend. It's inky with grapey, berry-like aromas and black raspberry, peppery flavors."

Grapegrowing

In Clos du Bois' vineyards in Alexander Valley, Cabernet Sauvignon, Merlot, and Cabernet Franc are grown in heavy, loamy, gravelly soil. Excess vigor is the biggest problem. "Cabernet Franc is setting too big a crop," says Tom Hobart, Director of Viticulture. "We're experimenting to determine how to control this."

Malbec is planted in clay soil. Except for shatter, which is worse in drought years, it does well on these sites.

Planted in 1972, 100 acres of Cabernet Sauvignon yielding 4.5 tons/acre are picked between late September and early November at about 23.5° Brix, 0.83 TA, and 3.3 pH. In 1973, 20 acres of Merlot were planted. Since then, T-budding has brought the total to approximately 50 acres.

The Merlot, which yields five tons/acre, is picked between mid- and late September at 23° Brix, 0.73 TA, and 3.4 pH. Twelve acres of Cabernet Franc, T-budded in 1983, yields six tons/acre and is picked in late September at 23° Brix, 0.68 TA, and 3.3 pH.

Malbec was planted on 3.5 acres in 1983. Yielding 3.5 tons/acre, this is the earliest ripening Bordeaux varietal and is picked in early September at 23° Brix, 0.68 TA, and 3.5 pH. About 50% of these grapes are sold to Arrowood Winery.

Winemaking

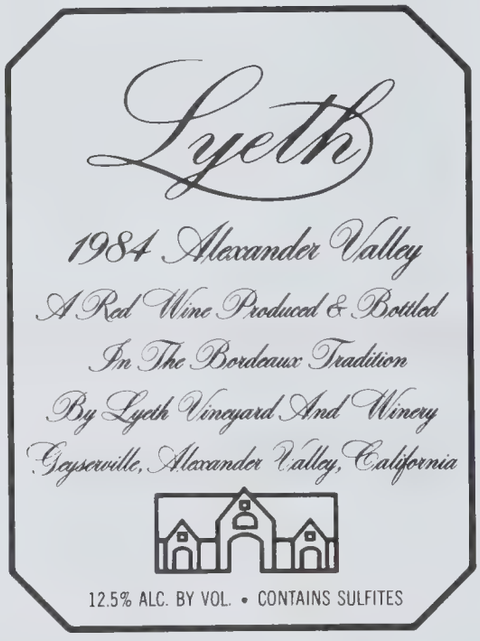
All four varieties are fermented separately. Pump-over is done three times/day and pressing is done between 10 and 24 days after the start of fermentation. This depends on the grape variety and vintage, with 14 or 16 days being the average.

"I am not a proponent of long-term maceration," Hawley says. "From our grape source, the wines become more tannic, less fruity, and paler in color with extended maceration."

Malolactic fermentation completes in the tank, and the wine receives one coarse racking before going into Nevers oak barrels that are half new and half two-year-old. The wines remain in barrel nearly 36 months and blending is done just before bottling.

"Fining has never been necessary for the wines in the Marlstone blend. I shy away from fining agents and processing in general because they strip the wines of flavor and body."

The 1985 Marlstone, to be released in February, 1989, is a blend of 62% Cabernet Sauvignon, 28% Merlot, 7% Cabernet Franc, and 3% Malbec.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Winemaker: Bill Arbios

"For my palate, 100% varietal Cabernet Sauvignon is frequently too aggressive," says Bill Arbios. On average, Lyeth Red is 75% Cabernet Sauvignon, 20% Merlot, and 5% Cabernet Franc and Malbec. However, there are plans to increase the percentage of Cabernet Franc when new vines come into production. "I like the strawberry character of Cabernet Franc," Arbios states.

Wine Style

"We're looking for a complex, harmonious, balanced, rich, soft, and approachable wine with no single component sticking out.

"We harvest Cabernet Sauvignon immature by some standards—22° to 22.5° Brix. This helps to give the wine structure. It has muted bell pepper qualities with plums, currants, and varietal spiciness in the eucalyptus/mint end of the spectrum.

"The other three varieties flesh out the wine and give it complexities. Merlot shows green olives and cassis. Cabernet Franc highlights strawberries and general fruitiness, while Malbec is chewy and spicy."

Grapegrowing

The Lyeth vineyards, in Geyserville, northern Sonoma County, are contiguous, but contain 16 different soil types and just about every possible sun exposure.

The vineyards, ranging from seven to 20 years old, are among the warmest in Sonoma County and give proper color development in all the Bordeaux varieties except Cabernet Sauvignon, which has a somewhat shallow coloration. "We're looking into canopy management experiments with this variety," Arbios says. "We also fight mildew and mites in Malbec.

"Merlot and Cabernet Franc handle heavier soils," Arbios notes. "This is not true for Cabernet Sauvignon. Malbec needs well-drained hillside locations."

All grapes are estate-grown except for the 30% of the Cabernet Sauvignon that is purchased. The Petit Verdot on the property has all been budded over. Arbios claims it made a dull, Carignane-like wine that offerred nothing to the blend.

Most plantings are on a three-wire trellis and are cordon-pruned. After the canopy begins to droop, hedging is done about every three to four weeks. The vines receive minimal drip irrigation.

Each variety yields about three tons/acre, although Merlot occasionally produces up to four tons/acre.

Cabernet Sauvignon ripens about the last week in August, followed by Merlot, Malbec, and Cabernet Franc, which are picked through the third week in September.

Approximate harvest windows are: Cabernet Sauvignon at 22° to 22.5° Brix, 0.86 TA, and 3.1 pH; Merlot, Malbec, and Cabernet Franc at 23° Brix, 0.78 to 0.80 TA, and 3.0 to 3.25 pH.

"I'm principally interested in color development and the taste of the grapes," Arbios says.

Winemaking

In many tanks, several of the varieties ferment together, but portions of some ferment separately. Maximum must fermentation temperatures are 80° to 85°F with the cap at 85° to 90°F. Gentle pump-over is done to irrigate the cap only.

Extended maceration can go as long as

45 days; pressing decisions are based on taste and softening mouthfeel. "Even though we start picking the third week of August, we only complete pressing the day before Thanksgiving," Arbios reports.

The wine is racked a couple of times in the first three months and spends one year in new to four-year-old, medium-toast Nevers oak. It spends a second year in inert, 1,000 to 3,000-gal oak uprights.

The blend is fine-tuned before bottling and fined, if necessary, with one egg white/barrel. The wine is cellared one to 1.5 years before release.

MOUNT VEEDER WINERY
1984
NAPA COUNTY
MT. VEEDER VINEYARDS

Winemaker: Peter Franus

Peter Franus has been making a Bordeaux-style blend with all five varieties since 1978. He feels as if he is finally beginning to reap the rewards of a ten-year experiment.

Wine Style

"The marketplace is demanding red wine that is approachable early," Franus says. "Higher percentages of Merlot and Cabernet Franc assist us in that regard, but the reds of Mt. Veeder seem to require more time to develop than those from other areas of Napa Valley.

"Our style is dominantly aromatic, with cedar, plum, black pepper, and bay leaf from Cabernet Sauvignon and additional aromatics from Merlot, Malbec, and Cabernet Franc."

Cabernet Sauvignon generally constitutes 80% to 85% of the final blend. "Our Cabernet Sauvignon is unyielding and tight, taking a long time to develop," Franus states. "It can be rather tannic, but offers earthy, mushroomy aromatics as it matures.

"Merlot and Cabernet Franc are more expansive, with substantial aromatics at an earlier age. To state it simply, Cabernet Sauvignon has harsher, greener tannins; Cabernet Franc and Merlot have rounder, more subtle tannins.

"Merlot adds a complementary green olive herbalness to Cabernet Sauvignon and Cabernet Franc. It is forward in its youth and has exotic spice, violets, and cedar components.

"Malbec has the least in common with Cabernet Sauvignon and Cabernet Franc. It is reminiscent of Zinfandel with its brambly, spicy, black pepper composition."

Franus considers Petit Verdot the least interesting variety because it is vinous and grapey rather than complex.

Grapegrowing

Merlot (2 acres) and Cabernet Sauvignon (12 acres) were planted at an elevation of 1,000 feet in 1965. Both varieties yield three tons/acre. Cabernet Sauvignon is picked at 22° to 23.5° Brix, 0.75 to 0.95 TA, and, depending on the block or flavor criteria, a pH of 3.3 to 3.5. Merlot's harvest window is 22.5° to 23° Brix, 0.80 TA, and 3.4 pH.

Two acres of Cabernet Franc and more Cabernet Sauvignon were planted in 1972 at 1,400 ft. elevation. Cabernet Franc generally yields 3.5 tons/acre and is picked at 22.8° to 23° Brix, 0.80 TA,

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and 3.4 pH.

Malbec and Petit Verdot (½ acre each) were planted in 1974. They suffer from shatter, and yield from almost nothing to over three tons/acre. Harvest parameters are: Petit Verdot at 22° Brix, 0.87 TA, and 3.35 pH; Malbec at 22.5° Brix, 0.82 TA, and 3.4 pH.

"Merlot realizes its potential on Mt. Veeder in clay soil with some cracked shale for drainage," says Franus. "The other varieties thrive in Mt. Veeder's volcanic ash soil."

Early plantings are head-trained and cane-pruned on a two-wire trellis. Later plantings are cordoned on a two-wire trellis.

Cabernet Sauvignon is harvested first, any time from early September to mid-October. Merlot can be ready at the same time. Generally, Malbec, Petit Verdot, and Cabernet Franc follow in that order, but picking is related to crop levels and the order can and does change.

Winemaking

"Prior to the inauguration of our reserve program in 1986, blending was a matter of logistics since all the red wine ultimately came together at some point," Franus says. "We are very selective with our reserve, however—all free run, the best Cabernet Sauvignon lots, higher proportions of Cabernet Franc and Merlot are aged in new French chateau barrels."

All lots are fermented in 700 to 1,500 gal tanks with maximum must temperatures of 80° to 85°F, and pump-over is done twice/day. Time of pressing is based on taste, affording a total maceration of 15 to 20 days from the start of fermentation.

Malolactic fermentation is completed in tank in six weeks and the wine receives one or two rackings before going to new (10%) to six-year-old medium-toast Nevers oak barrels.

The final blend is made in December, after the first barrel racking. Second and third barrel rackings occur at three-month intervals. The final two rackings are at five-month intervals. All barrel rackings are barrel to tank, then back to barrel.

The wine may be fined (two to four egg whites/barrel) before bottling.

STERLING VINEYARDS.
NAPA VALLEY

1985 STERLING RESERVE

Winemaker: Bill Dyer

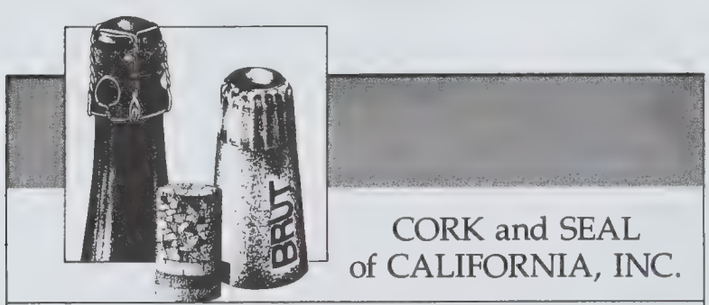
Wine Style

"During my visits to Bordeaux, I noted that the red wines are very supple even in their youth," says Bill Dyer. "That a wine of great ageing potential can taste good as a barrel sample intrigued me, and became a critical factor in selecting the Sterling Reserve blend.

"While concentration of flavor and intensity of aroma occur in many of the potential components of the blend, suppleness is more elusive. It is in the blending between varieties and individual vineyard characteristics that we begin to build a wine that has both concentration and richness. Blending is a very powerful winemaking tool, allowing us to build wines, layer by layer.

"In recent vintages, Cabernet Sauvignon from the Rutherford area, with intense berry aromas and firm tannins, has provided the framework of the Reserve. Cabernet Franc from the Diamond Mountain Ranch (DMR) contributes a hint of violets to the aroma, and is also rich in tannins. Merlot provides some tea and tobacco leaf aromas, with its softer tannins ensuring more suppleness on the palate. Petit Verdot, with its spicy nose, moderate tannins, and deep color is used to 'complete' the blend."

Beginning with the 1985 vintage, the wine will be known as 'Sterling Reserve', without a varietal designation on



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the label. "I know that in working with four varieties," explains Dyer, "there will be vintages in which the best blend will not conform to varietal labeling laws, so we are changing the name to avoid this potential conflict."

Grapegrowing

Sterling grows Cabernet Sauvignon, Merlot, Cabernet Franc and Petit Verdot in 12 of its Napa Valley vineyards, ranging from Winery Lake Vineyard (WLV) in the Carneros district to DMR near Calistoga. Over fifty separate wine lots are produced with individual vineyard and varietal identities.

Typically, the Reserve is composed of between six and twelve components. Although Malbec is not currently used, there is an experimental planting of it in the Three Palms Vineyard near Calistoga.

Cabernet Sauvignon, Merlot and Cabernet Franc are harvested with a target of 22.5° Brix, 0.80 TA and 3.3 pH. Generally, the order of ripening is Merlot first and Cabernet Sauvignon next, followed closely by Cabernet Franc, with Petit Verdot last.

However, regional influences can affect this order. For instance, DMR Cabernet Sauvignon is usually out of the fermentor before WLV Merlot is harvested.

Cabernet Franc is grown in three sites. Dyer prefers the grapes from DMR and Three Palms. "On Diamond Mountain, the Franc is in coarse volcanic soil. Three Palms, with its volcanic rocks, reminds me of a mountain vineyard that happens to be on the valley floor."

Petit Verdot was planted in 1981 on five acres adjacent to the winery. It is picked at between 21.5° Brix and 22.5° Brix since this variety reaches maturity at a lower sugar level.

"We're still learning about the correct environment for Merlot," says Vineyard Director Tucker Catlin. "Until 1984, we had all of it growing north of St. Helena. At that time, we acquired our Oak Knoll site just north of Napa. In 1986, WLV became another source of Merlot.

"Both Oak Knoll and Winery Lake are giving us excellent fruit quality. However, we chose to remove a block of Merlot at WLV on deep, heavy soils, as we were getting excess herbaceousness. Merlot wants to be on well-drained soils, especially in cooler areas."

Spacing and rootstock trials that were established with Petit Verdot (1981), Merlot (1984), and Cabernet Sauvignon (1985) are encouraging the use of narrower row spacing and mildy devigorating rootstocks (SO4 and 3309).

Trellising trials in Cabernet Sauvignon (1982, 1986) are supporting the theory of dividing canopies to improve red wine quality on high vigor/cool climate sites.

Winemaking

The four varieties are vinified in a similar manner. The fermentors are pumped over by using a sprinkler, two or three times daily, with duration dependent on tank size and development of tannins. The must fermentation temperature reaches a maximum of 85°F. The lots are usually pressed at dryness.

Blending is completed by Spring, and the wine goes into medium-toast Alliers oak barrels. In 1985, 50% of the barrels were new and 50% were one-year-old. In subsequent vintages, the Reserve barrels are all new, after being used to ferment white wine.

The wine is egg white fined (generally four egg whites/barrel) and racked quarterly barrel to barrel. It is bottled just after harvest two years after the vintage, and released after one to two years of bottle ageing. ■

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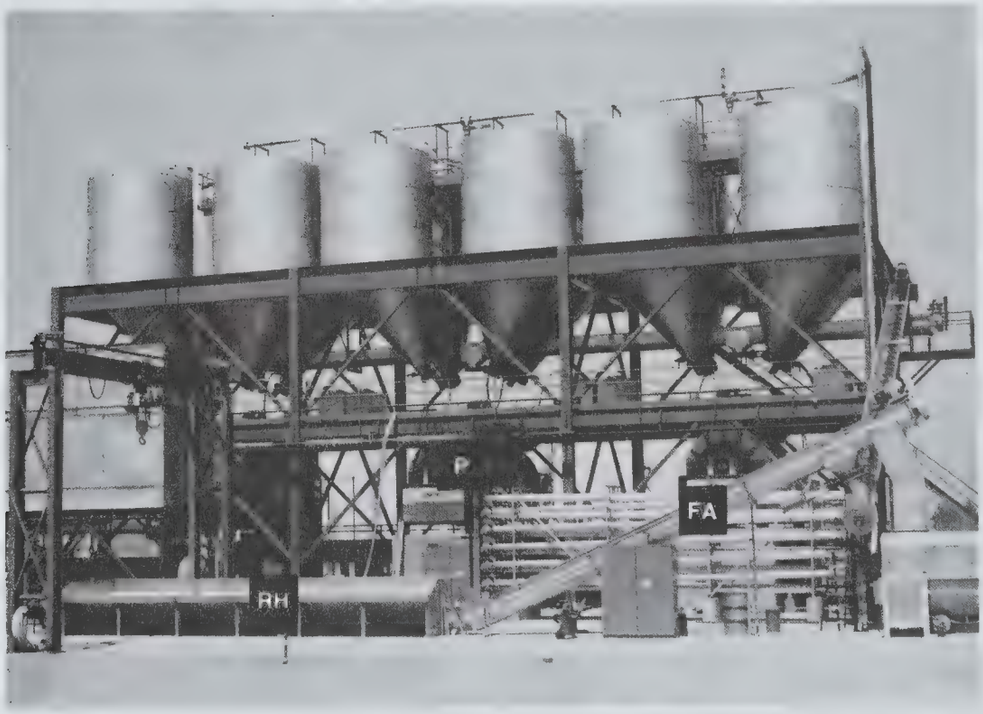

Delicato's Cypress Valley Winery can deliver whole-cluster fruit to any of three tank presses.

Whole-cluster pressing is standard procedure in Champagne production, but a technique that producers of still wine rarely have employed. In recent years, however, a growing number of California wineries, both large and small, have turned to whole-cluster pressing as a means of improving wine quality.

In whole-cluster pressing, grapes are neither crushed nor destemmed. The idea is to achieve improved juice quality by minimizing maceration and effecting a gentler, more efficient juice extraction.

Wineries utilizing this technique generally obtain juices with lower phenols and solids, lower pH and higher TA, improved color, and a tendency to settle and rack more easily. The result is wines that are more delicate and harmonious and have greater potential for ageing. Some producers also report higher juice yields.

On the negative side of the ledger, the technique cuts press capacity by about 50%, increases press cycle time, and is costly to implement. Some producers also report reduced juice yields. Nonetheless, all producers surveyed by *PW&V* feel that the benefits of whole-cluster pressing definitely outweigh its drawbacks.

New Installations Confirm Trend

Strong confirmation of the growing interest in whole cluster pressing of still wine is supplied by several installations of direct-to-press systems.

Delicato Winery

Delicato's new Cypress Valley Winery in King City, Monterey County has been designed to facilitate whole-cluster pressing. During the 1988 harvest, grapes were dumped into a hopper and then conveyed to three 50-ton capacity (for crushed, destemmed grapes) tank presses via 18-inch diameter incline screw augers that bypass the winery's crusher, must chiller, and static drain tanks.

According to Bill Nakata, vice-president of operations, the system has been specifically engineered to minimize maceration during the conveyance of the grapes to the press. Nakata says that maceration in direct-to-press operations usually is the result of conveyors that are too steep or too narrow.

Nakata regards the direct-to-press technique as "a processing and blending tool that will produce a different style of wine." He adds that, although the system was costly to install, the expected gain in wine quality should justify the expense.

During the 1988 harvest, Delicato pressed approximately 2,500 tons of grapes whole-cluster: over 90% of the Sauvignon Blanc grapes, all grapes used for sparkling wine production, and 100-ton test lots of Chardonnay, Chenin Blanc, and Semillon.

Robert Mondavi Winery

Robert Mondavi has installed a direct-to-press operation at its Napa Valley facility in Oakville. This project evolved from the success of the direct-to-press operation at Mondavi's Woodbridge facility in Lodi and from observation of whole-cluster pressing at Vichon Winery in Oakville, which Mondavi recently acquired.

Mondavi-Oakville used a 25,000L tank press, and two smaller presses (5,000L and 2,500L). Decisions on what varieties to whole-cluster press were made on a day-to-day basis during the harvest, and comparative analyses were conducted of whole-cluster juices and those obtained from standard crushing/destemming.

Mondavi-Oakville utilizes a screw-auger system similar to the one employed at Mondavi-Woodbridge. Paul Smith, Winery Engineer at Mondavi-Oakville, says that installing the system involved extensive modifications of the winery's basic infrastructure (power, drainage, etc.).

Smith notes that flexibility is built into the system to enable production personnel to handle each lot of grapes in an optimum manner. He adds that the winery also uses the system for red wine processing. Red wine pomace was conveyed to press via binning instead of by pumping. The goal, as with white wine, is to produce better wine through gentler handling.

One additional feature of the system at Oakville is the 'cluster-buster' or roller/crusher without a destemming basket. This unit can be utilized or by-passed, depending on the winemaker's desire to go to press with crushed or non-crushed fruit.

Mondavi's Woodbridge facility has been in the forefront of direct-to-press technology in California. In 1987, the winery used three 25-ton tank presses to press Chardonnay, Semillon, Sauvignon Blanc, Muscat Canelli, and Riesling grapes. A fourth press was added in 1988.

Winemaker Brad Alderson reports average juice phenol contents of 250 mg/L, compared to 300 mg/L for crushed/drained fruit. He also cites bet-

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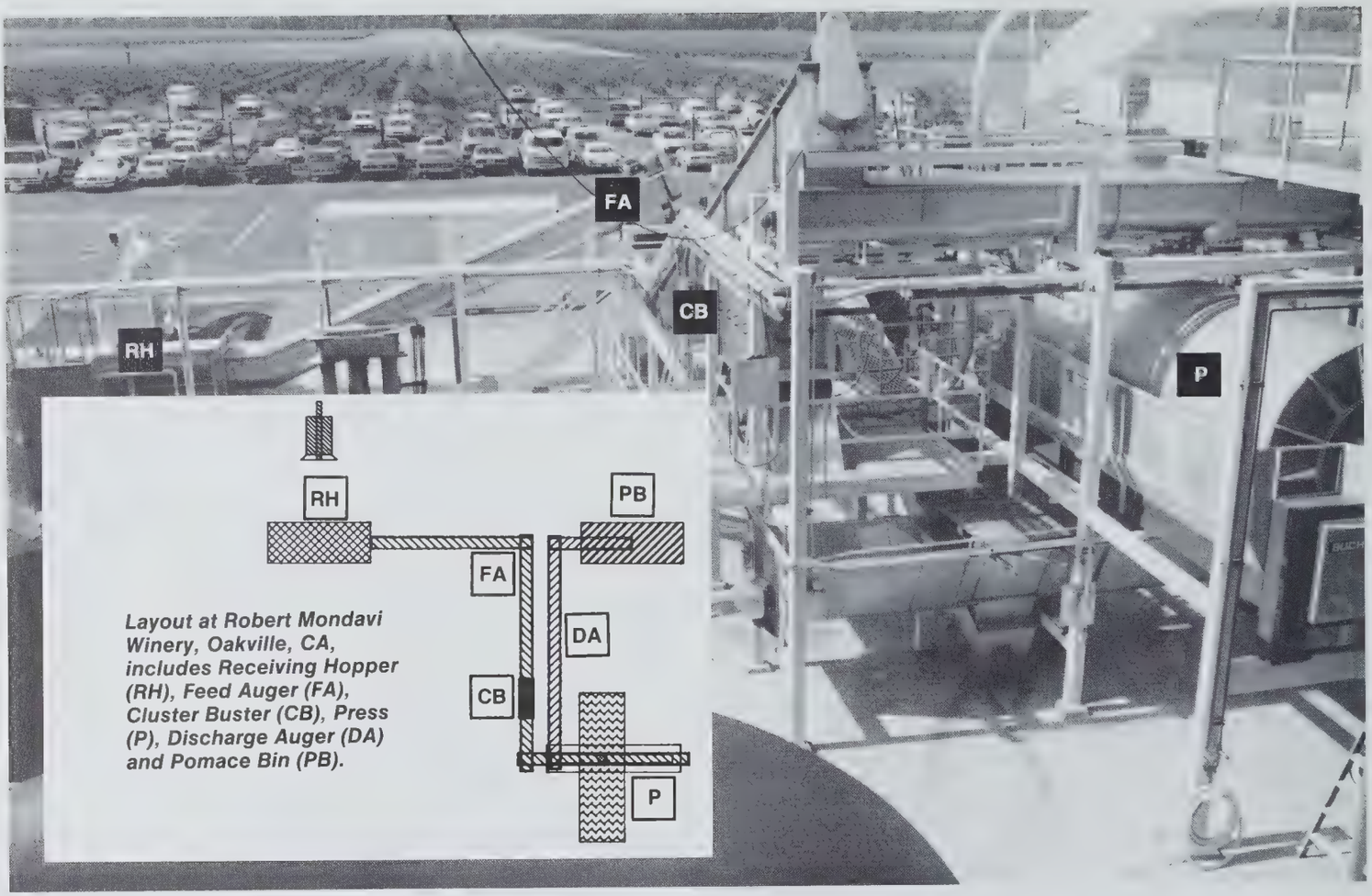

Layout at Robert Mondavi Winery, Oakville, CA, includes Receiving Hopper (RH), Feed Auger (FA), Cluster Buster (CB), Press (P), Discharge Auger (DA) and Pomace Bin (PB).

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ter juice clarity, better acid/pH, and easier pressing as other benefits.

Alderson says that juice yields at Mondavi-Woodbridge are slightly lower, but that press cycles are up to 25% shorter. He attributes the latter fact to the drainage channels formed by the stems, which promote more efficient pressing.

Each press cycle includes an average of two tumbles (rotations) of the load. Alderson acknowledges that this produces some abrasion of the skins, leading to maceration, but says that the procedure is essential for redistributing the mass and liberating pockets of juice.

Fetzer Vineyards

Fetzer, in Mendocino County, has installed a direct-to-press setup for its new production facility in Hopland, consisting of a screw/auger conveyance system and three tank presses, each able to hold 25 tons of whole-cluster fruit.

During the 1988 crush, Fetzer used the new system to process 1,000 tons of Riesling and over 2,000 tons of white Zinfandel. One-hundred-ton test lots of Chardonnay and Sauvignon Blanc also were pressed whole-cluster.

Load time was 20 minutes for machine-picked grapes, 25 minutes for hand-harvested grapes. Loads were tumbled twice between bladder inflations. Press cycle times ranged from 90 to 100 minutes.

According to winemaker Paul Dolan, the benefits of whole-cluster pressing were better juice acid/pH ratios, cleaner fermentations, and no off-odors or H_2S problems. Juice solids in white Zinfandel were 0.4% to 0.6%. In 1989, the winery will also deliver Gewurztraminer and Muscat grapes directly to press.

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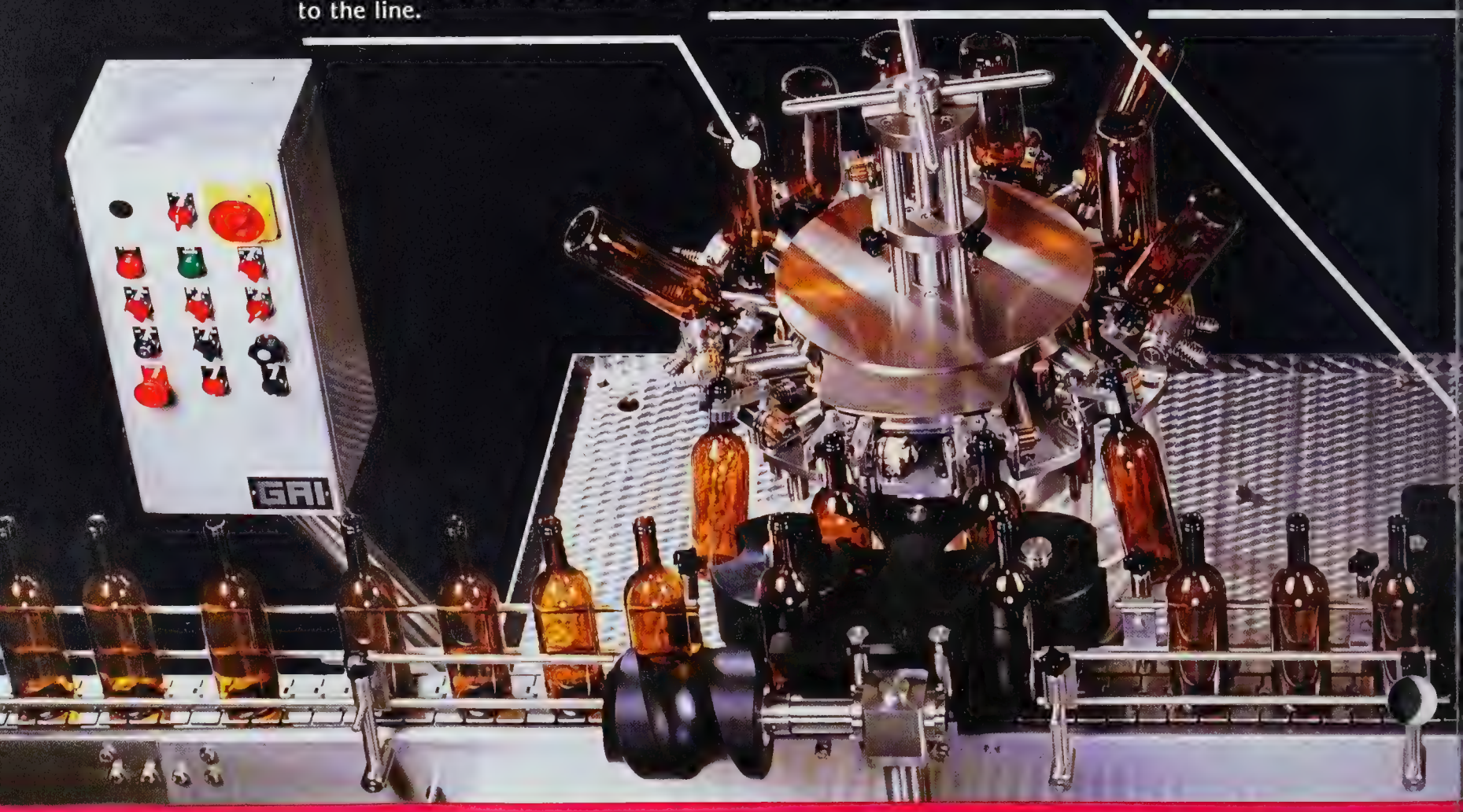

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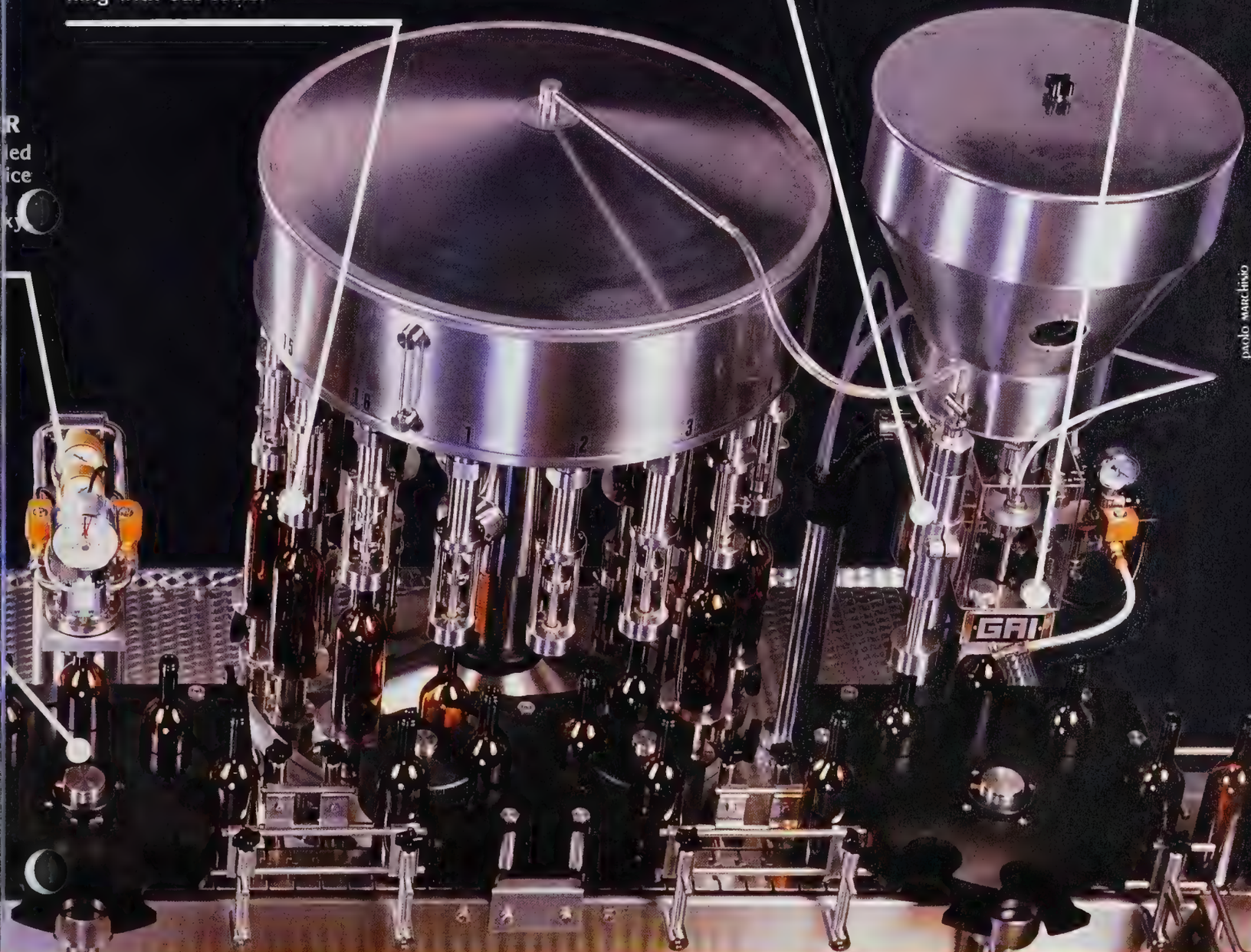

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Fetzer Vineyards has three tank presses to receive whole-cluster fruit.

that has begun whole-cluster pressing. After the 1987 harvest, the press pad was redesigned to accomodate a direct-to-press setup. During the 1988 crush, 64 tons of Chardonnay and 60 tons of Sauvignon Blanc (grapes belonging to four different customers) were pressed whole-cluster.

Preaching the Whole-Cluster Gospel

Concannon Vineyards

A number of winemakers in California have several years' experience with whole-cluster pressing. Sergio Traverso of Concannon in Livermore studied the technique with Dr. Vernon Singleton when he was a student at UC Davis in the early 1970's. He then employed it in his first winemaking job, which was in Mexico in 1974. Since Traverso joined Concannon in 1981, the winery has processed all white grapes using whole-cluster pressing.

Traverso says the main benefit of whole-cluster pressing is good separation of free run juice. "You can map the quality of juice that comes from a berry," he says. "The best is from the center, the pulp. It has lower pH and solids. The juice we extract from closer to the skins has higher pH, lower TA, and greater phenols." Traverso estimates average phenols of 220 to 230 mg/L for whole-cluster juices compared with 340 to 350 mg/L for juice derived from crushed/drained fruit.

"With whole-cluster pressing, the pH curve is clear," Traverso adds. "It starts low and gets higher. With crushing, it's much flatter." Traverso says the tech-

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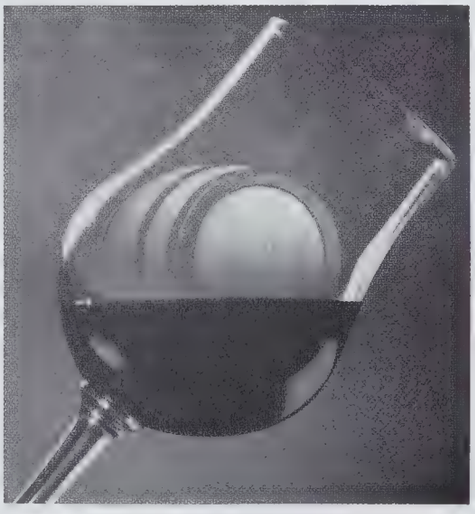

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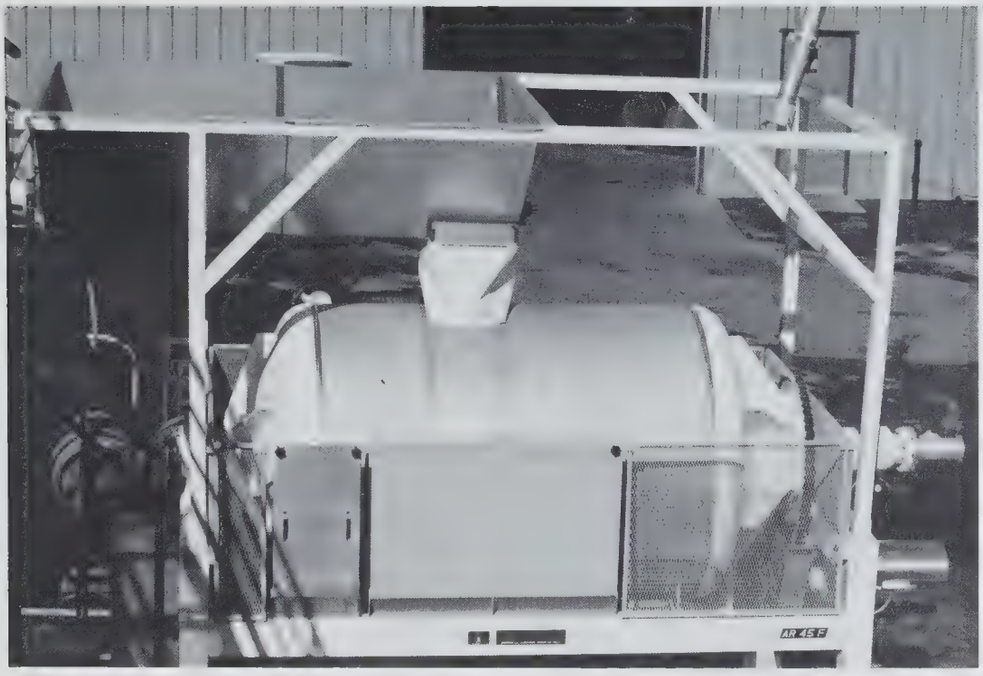

Caymus Winery, Rutherford, CA has installed a hopper with auger above their tank press to receive selected lots of Sauvignon Blanc grapes direct-to-press and fermented red grapes will be binned to the press instead of being pumped.

nique also eliminates the need for press aids and that stems make pressing more efficient by forming drainage channels.

Grape clusters are fed one-ton at a time into Concannon's 12-ton tank press. Putting more tonnage into the hopper increases maceration. Although the press throughput is reduced almost 50% by whole-cluster pressing, press cycles are shorter, according to Traverso.

However, speed is not a primary benefit of whole-cluster pressing. The key to the procedure, observes Traverso, is that it enables producers to obtain the same volume of juice using lower pressure.

Free run is separated at the press. When to separate is a subjective decision based on acid, pH and taste of the juice. The amount varies by variety. The free run is fermented separately and used for Concannon's varietal wines. Juice from the harder press is used for second-quality wines. From a ton of grapes, roughly 50 cases will be free run, 15 will be harder press.

Traverso says that tumbling during the press cycle does present a problem for winemakers who employ whole-cluster pressing in order to minimize maceration. Tumbling creates solids and increases phenols. Yet a few tumbles during the pre-press cycle are necessary to redistribute the load in the press, and more are required as pressing proceeds and becomes more difficult.

Along with the other winemakers surveyed, Traverso is convinced that whole-cluster pressing results in higher-quality wines that are characterized by more refined aromas and less phenolic harshness.

Wente Bros. Winery

Wente, a neighbor of Concannon's in Livermore, crushes no white varieties except Grey Riesling. According to winemaker Willy Joslin, results have been particularly good with Gewurztraminer grapes picked to make sweet, late-harvest wine—the whole-cluster method eliminates much of the bitterness many consumers find objectionable in the variety.

Grapes are dumped into a hopper with a 20-inch screw auger, then gravity-fed into one of four membrane presses that have specially-designed full-length doors (added at the winery's request). This feature enables workers to fill a press in three minutes, a task that easily can take an hour or more at other wineries with direct-to-press operations.

Joslin reports that Wente's juices have 50% lower phenols, solids reduced from 7-8% to 2%, and free run yields of 165 gal/ton, with 10 gal/ton press fractions. Press cycles vary from 1 hr. to 2.5 hr., pressure ranges from 0.6 to 1.5 atmospheres, and there are one to four tumbles between inflations.

Joslin cites the benefits as less bitterness (from lower phenols); easier settling and filtering (from lower solids); and more harmonious, long-lived wines with better mouthfeel (from a higher percentage of free run juice).

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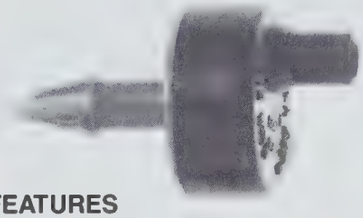

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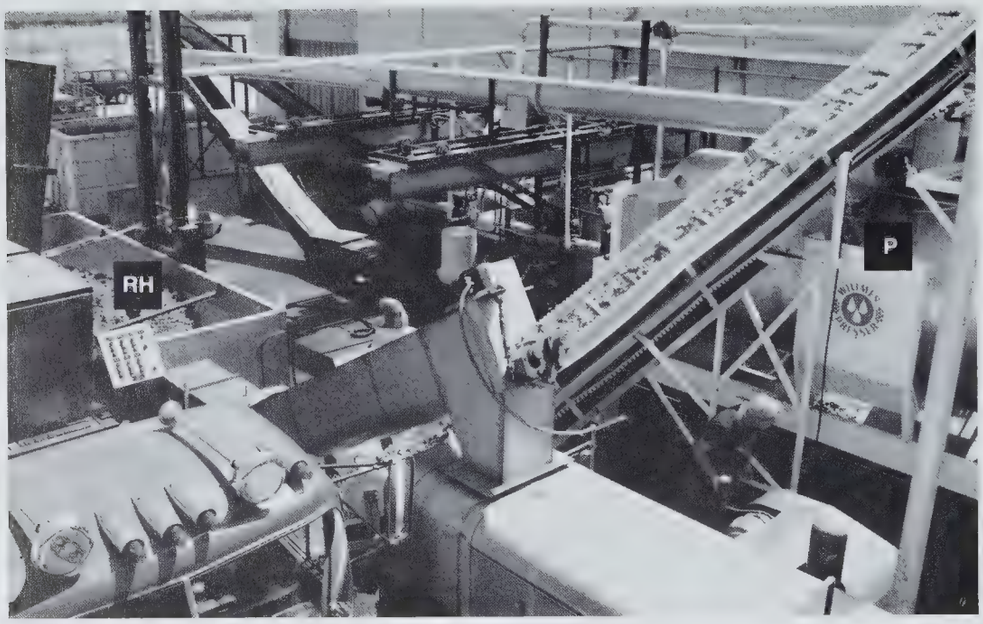

White grapes are fed by conveyor to tank press at Franciscan Vineyards.

Franciscan Vineyards

Greg Upton, winemaker at the Rutherford facility in Napa Valley, is another believer in whole-cluster pressing. Upton worked four years at Concannon with Traverso and has developed an incline belt conveyor system to convey grapes directly to Franciscan's 12,000L tank press.

In 1987, 40 tons of Chardonnay (which became the winery's reserve bottling) received whole-cluster pressing. For the 1987 reserve Chardonnay (which was barrel-fermented), yield was 178 gallons/ton; 150 gal of this was considered free run, the balance was separated. There were 30% to 50% less total lees from the whole-cluster lot.

In 1988, 112 tons of Chardonnay were whole-cluster pressed as well as 28 tons of Sauvignon Blanc. Comparison of 5,000-gal lots of Sauvignon Blanc revealed that 650 gallons of juice lees resulted from crushed and de-stemmed fruit while only 200 gallons of juice lees resulted from whole-cluster pressed fruit. In identical Chardonnay lots, there was 10% less total lees in the whole-cluster lot than in the crushed and de-stemmed lot.

Upton reports press cycle times of 1 ¾ to 2 hrs., with an average of eight 45-second tumbles (three or four rotations each) in the press program. Pressure ranged from 0.15 to 2 atmospheres.

Echoing his counterparts, Upton cites the benefits of whole-cluster pressing as lower pH (it increases as pressing proceeds), lower phenols and solids, easier settling, cleaner fermentation, less oxidation and more refined, elegant wine aromas. As a result, he expects Franciscan's reserve Chardonnays from this point forward to be longer-lived wines that are rounder and more Burgundian in style.

Sonoma-Cutrer Vineyards

In Windsor, the Chardonnay-only producer utilizes whole-cluster pressing as one element in a unified program designed to maximize gentle handling of grapes.

Grapes are picked into ¼-ton boxes which have side and bottom ventilation slots. They are then air-chilled in a refrigerated tunnel and dumped onto hydraulically-driven shaker tables which distribute them in a single layer for hand-sorting. They are then delivered, via an inclined, cleated belt conveyor, to one of three 12,000L tank presses. At the top of the conveyor, a swivel funnel directs the grapes into one of the two-door presses.

Filling of the presses takes about 1.5 hours. The press cycle yields two press fractions. The first cut (free run) is obtained at 0.5 atmospheres or less and usually consists of 140 to 150 gallons. This takes about 1.5 hours and includes one-minute tumbles between bladder inflations.

The second cut is obtained at up to two atmospheres and yields about 30 to 40 gallons. It requires another 45 minutes of pressing. This juice is not employed

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Grady Wann, research enologist, reports juice solids of ¼ to ½%, with juice phenol contents of 350 to 400 mg/L. Wann says that phenols may be higher than at some other wineries because of the winery practice of adding 25 ppm SO_2 at the press, which prevents oxidation of certain phenols, but helps preserve fruitiness.

Chateau de Baun

Roland Shackleford, winemaker at the Santa Rosa winery, does no crushing at all. Grapes (the winery's specialty is Symphony, a hybrid of Gewurztraminer and Grenache developed at UC Davis) are picked into ½ ton fruit bins, dumped into a hopper, and fed by a conveyor belt into a tank press.

Shackleford reports juice yields of 165 to 175 gal/ton, phenolics of 175 mg/L, and juice solids of 0.5% Press cycles run 4 to 4.5 hrs, including a 45 minute prepress program which produces 30% to 40% of juice yield. There are six to seven tumbles/press cycle, but little abrasion. Highest pressure is 2.2 atmospheres. ■

Chateau de Baun delivers whole clusters to either of two tank presses.

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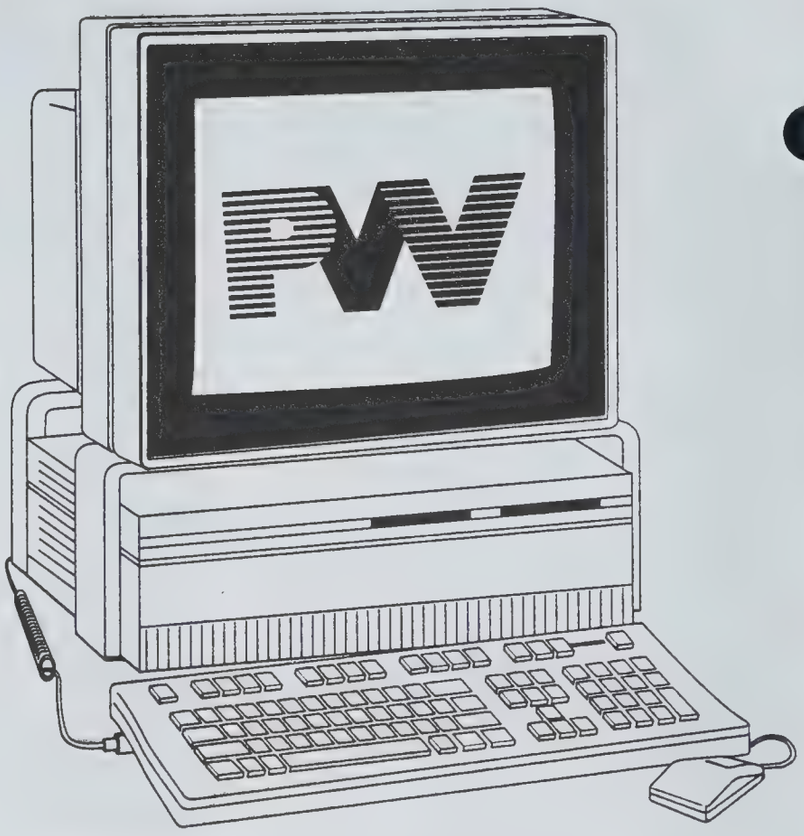

Michael Minard

Executives in any successful business need timely, accurate information in order to make intelligent decisions. The dynamic wine industry is no exception. The data-intensive processes of winemaking and winery management invite computerization.

There often is little time in which to make an important decision on a new marketing strategy or an irreversible treatment for a particular batch of wine. A well-integrated computer system can assist wineries of any size in managing the huge amount of information that is vital to successful decision-making.

If used properly, computers can save time and money, but it is important to understand their capabilities, limitations, and demands.

The Personal Computer is King

Used for equipment monitoring, inventory control, bulk wine tracking, payroll, sales analyses, and to complete the many government reports required of wineries, computers have become an integral part of winemaking and winery management.

PW&V recently surveyed 125 wineries of all sizes in 16 states and followed up with in-depth interviews at several wineries in Sonoma and Napa counties in California. The wineries were divided into three groups based on yearly production. The groups were: less than 25,000 gallons, 25,000 to 100,000 gallons, and more than 100,000 gallons. Roughly 40 wineries were surveyed in each group.

The survey contained 70 questions on computer usage. The responses were entered on a spreadsheet program and then translated to a database for analysis.

Of 76 wineries responding, 72 either are currently using a computer or planning to purchase one. The remaining 5% are smaller wineries producing less than 25,000 gal/year.

The computer of choice in the wine industry is the personal computer (PC), also known as the micro-computer. Nine out of ten respondents use the PC as a stand-alone unit. In a few cases, they are linked together in a small network (LAN). Only four responding wineries, all producing over 100,000 gallons, are using the faster, more powerful, and potentially more expensive main-frame or mini-type computer.

Networks allow for the sharing of files and 'peripherals' (printers, etc.); access to information independent of the data entry person, even at locations remote from the data entry source; and efficient utilization of employee time.

Fetzer Vineyards, Redwood Valley, CA, is an example of a winery benefitting from a PC network. Raw data regarding bulk wine inventory is entered, in the winery's main office, onto an IT&T FileServer with a 120 mb hard disc which has tape backup. The processed data is then transmitted daily to another PC unit located at the winery's other production facility 30 miles away in Hopland.

The network is run by a G-Net software package and utilizes a bulk wine tracking system called Winemaker's Data Base, which was devised by Jim Vahl, a former winemaker who is now a wine industry software designer. This menu-driven program is written in the language of dBase III and optimized by a Fox Base Plus language compiler. Nine members of the winery's production staff employ the information generated by the system.

Steve Dorfman, assistant winemaker, reports, "This system enables us to maintain accurate records without the use of a card file; to extract past and present information easily and efficiently; and to do trial blending on the computer screen without having to alter records or deal with extraneous information. It is a fast, flexible and adaptable system."

In lieu of an actual network, some larger wineries use a series of stand-alone PCs as individual workstations, but this limits the sharing of files (*i.e.*, if one workstation is used to track bulk wine, all winery personnel needing bulk wine information must obtain it from that computer), requires extra labor, and can be particularly confusing if the workstations employ different software.

Increasingly, computers with a high-speed hard disk and tape back-up are preferred to those employing floppy disks, for reasons of speed, efficiency and economy. Floppies can be used successfully for back-up, but this approach requires greater self-discipline on the part of the user. Tape back-up systems can automatically back-up all new information according to a pre-arranged schedule.

Half of all winery computers are devoted to standard office and account-

ing work. Production usage accounts for another 36%, and the balance are employed for sales/marketing functions. Less than 1% of the survey respondents use computers to monitor or schedule equipment, or to aid in research or model construction.

In general, the larger the winery, the more likely its computer will be used in production work. The smaller the winery, the more likely its computer system will be confined to office work.

Presently, most production area computer usage is confined to record-keeping. (A few larger wineries use computers for process control, mainly to monitor fermentation temperatures.) These computers house information about current and past production runs. Only 5% of wineries use their computers to track bulk wine.

Some wineries are attempting to use spreadsheet programs for bulk wine tracking. A compiled database program can work well in smaller operations if winery personnel are willing to devote the time required to learn database programming or to hire someone to write a program. However, the difficulties of conceiving and executing such a program should not be underestimated.

Dick Blazer, who used the dbase III+ software program to develop a winery-specific bulk wine tracking program for Sterling Vineyards, Calistoga, CA, says, "It's a much more powerful and useful program than anything the winery could have purchased. However, it took me a great deal of time to devise it. In a vast majority of cases, wineries probably are better off going out and buying what they need."

Most wineries use off-the-shelf standard software packages like dBase, Lotus, or Word Star. Fewer than 20% use software specifically written for their applications. A few use wine industry packages that fulfill most, but not all, winery needs.

Lotus is the most widely-used program, principally because it is easy to learn and use. Its drawbacks, if any, are that it is somewhat slow in computing a large spreadsheet and has an enormous appetite for system and storage memory, a potential problem for wineries that have other uses for their computers. However, Lotus accommodates an excellent program. The only impediment to its successful utilization is the failure of users to adequately familiarize themselves with it.

George Schofield, a wine industry financial consultant, uses Lotus to design financial planning models for small wineries. "For run-of-the-mill winery applications, the speed of Lotus is no problem, nor is its size," Schofield maintains. "Additional storage capacity can be purchased for $100 to $150. Many wineries today have expanded to 640k, which can accomodate very large financial models and output about 30+ pages of data.

"The main problem with Lotus is that many users don't take the time to learn it properly. It only takes about ten hours to learn 50% to 60% of the commands and functions. Armed with that knowledge, the user can begin to do more efficiently all sorts of calculations, analyses, and model-building."

Large spreadsheets utilizing the 80286 or 80386 CPUs operate with much greater speed than the older, slower 8-86 and 8088 CPU computers. Printing a large spreadsheet also is much easier with the new add-on for Lotus, which allows for greater speed and simplicity.

Database software packages have decided advantages in data retrieval and processing, but they require more programming savvy. The most popular database is dBase III+.

The main difficulty with dBase is, again, the amount of learning required to use it properly. Also, it works much more quickly when enhanced by a separate language compiler program such as Fox Base. The new version, dBase IV, will include a compiler.

Premature Obsolescence

The widespread use of computers in the wine industry is relatively new. The average winery computer system was purchased within the past four years. Almost 30% of users already feel the need to upgrade their systems, believing they have outgrown both their hardware and software.

Richard Gulson, President of Gulson and Associates, a software company in Sonoma, CA, attributes this attitude to the rapidity of change within the wine industry. "The industry has changed dramatically in recent years, and so information processing requirements have changed too. Many owners of growing wineries purchase their computer systems thinking they would last forever. That was an unrealistic expectation."

Those respondents anxious to upgrade their systems want to improve the speed of their hardware and expand its data storage capacity. They also seek greater flexibility in both their hardware and software, although, as mentioned above, a perceived lack of flexibility in a computer system may often be more a function of deficient user knowledge than of inadequacies inherent in the system. Most respondents also included a faster and quieter printer on their wish lists.

"If only we could. . . ." was the central theme of many interviews. Typically, once a winery converts a manual function to computer, it quickly starts to envision potential benefits in other areas of operation.

The fact that many wineries seem frustrated by limitations of hardware or software, either because they bought inadequate hardware, or software incapa-

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ble of being adapted to other uses, indicates a critical lack of research and/or informational resources during the system planning stage.

Custom programs can be especially problematic in this regard. By definition, they are written to perform specific jobs. If the job changes, or if additional information is required, the program must be changed and/or the hardware enhanced. Software can be designed to be expanded at a later date, so it is important for the custom software designer to know early on of possible future applications.

The advantages of a customized program are that it can be tailored to a winery's specific needs (and perhaps to its former, manual record-keeping system) and affords the flexibity of adding or changing features quickly without reliance upon an outside programmer.

Computer systems will sometimes need to be updated as hardware and software improve, or as user needs change. If it is properly planned and maintained, however, a good system should prove adequate for many years.

Plan Your Purchase Carefully

Most computer consultants suggest that you carefully define your needs and goals before buying a system. You must have a clear idea of what a computer can and cannot do and what input is required to produce the results you desire. It also is essential to have a clear understanding of the time required to input the data necessary to achieve the desired output.

The basic message is that you should not go into a computer store with your wallet hanging out of your pocket or rely on one person's advice (especially the seller's). This is counsel that often goes unheeded, because it is tempting to rely on another person's expertise when you are uninformed. The key is to ask several 'experts', to find out what they agree and—especially—disagree on, and why.

You need to determine which software packages can produce the output you desire before selecting the hardware necessary to run that software. It also is essential to get a commitment from the seller to install your system and to provide documentation and support, for a fixed period, for both hardware and software. Part of this support should be training for you and your staff.

If you use an outside software writer, be sure to establish similar ground rules. Make sure you get full documentation for the program and a well-documented source code in case you need to have the program altered at a later date.

One wine industry computer consultant/software designer recommends the following purchase priorities:

1. Software and software support. (Local support is essential.)
2. Hardware compatibility to software.
3. Hardware support.
4. Hardware brand.

And, this consultant adds, you should buy the fastest computer you can afford.

Almost 50% of our respondents want to improve the speed and flexibility of their software programs.

Over 50% of those surveyed also feel their software documentation is poor. Software 'user friendliness' was the second most frequently mentioned item on our respondents' lists of suggested improvements.

The difficulty of learning software programs was a concern of almost all respondents, because most industry users are self-taught. The chief training source for 94% of respondents was 'on the job'. Only a smattering had any formal training, and few were fortunate enough to have had prior experience.

(Few computer classes are oriented specifically to the wine industry. Trial and error is an exacting tutor and often is quite time-consuming—just ask anyone who has managed to overwrite key files or delete the root directory of a hard disk.)

Almost half of the wineries surveyed plan to buy additional hardware and software in the near future. Most prospective software buyers are planning to buy production-oriented programs.

Keep it in Perspective

Computers do not impart wisdom or insure success, but they do provide the benefits of accuracy and speed in record-keeping and data retrieval, features which enable winery personnel to make more informed decisions. It is important to remember, however, that computers cannot be utilized successfully in the absence of human intelligence.

One of IBM's axioms is: "Machines should work; people should think."

Another cautionary epigram of relevance is: "Put garbage in and you'll get garbage out." ■

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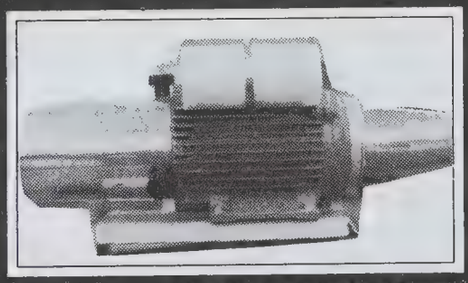

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Soil and Foliar Fertilizer Application

INCREASING BORON LEVELS

Paul W. Skinner, Ph.D., Vineyard Investigations
Hector A. Bedolla, Iron Horse Vineyards

Despite the widespread occurrence of Boron (B) deficiency in grapevines throughout the world (Australia, France, Japan, New Zealand, Portugal, U.S.A., and West Germany), B applications in vineyards can be troublesome due to the small range between deficient and toxic levels in grape tissues.[1,2]

In California, B deficiency can be found in vineyards with the acidic, highly-weathered, heavy-texured soils typical of the Coastal and Sierra Nevada mountain ranges as well as in vineyards with the well-leached, light-textured, alluvial soils typical of the coastal valleys.

Boron is required in all plants for the synthesis of cell wall material, the transport of sugars, and the germination and growth of pollen during flowering.[5] In grapevines, B deficiency symptoms appear in early spring and include death of the shoot tip, stunted shoots with shortened and swollen internodes, leaves with interveinal chlorosis, and straggly clusters with numerous small shot berries.[2]

Because of the significant role B plays in maintaining pollen viability and regulating fruit set, insufficient B at bloomtime can result in a significant loss in production. Adequate B levels are also required early in the growing season to sustain the vegetative growth necessary for normal flower cluster and fruit development. At present, a B level between 40 and 60 ppm in leaf petioles or blades is considered adequate at bloomtime for most grape varieties in California.[3]

In deficiency situations, B is either applied to the soil (25 to 30 lbs of 34% B_2O_3/acre) in strip sprays during the dormant season—in combination with an early spring herbicide application—or is broadcast (1 oz of 34% B_2O_3/vine) at the base of the vine.[1,9]

Boron applied to the soil is subject to both leaching and soil fixation depending on soil texture, pH, organic matter content, and rainfall (plus irrigation and frost protection). As a result, in certain vineyards with problem soils, B soil applications may not insure adequate B levels within the clusters during the critical bloomtime period.

Boron foliar sprays have been used successfully to increase fruit set in other perennial fruit crops, including prunes, apples, pears, and macadamia nuts,[4,7] and they have also been recommended as an intermediate treatment for grapevines with B deficiency.[1]

However, there is no specific information available concerning the most effective time or rates for B foliar applications to wine grapes in North Coast vineyards. Therefore, soil and foliar B applications were compared in a vineyard with low soil and vine B levels.

The test site was a hillside Pinot noir vineyard in the Russian River area of Sonoma County. The 10-year-old vines are cordon-trained, cane- and spur-pruned, and grafted on St. George and AXR-1 rootstocks.

The vineyard has a Josephine (fine-loamy, mixed, mesic Typic Haploxerults) soil.[8] 'Haploxerult' is a soil classification term which refers to very old, highly-weathered soils with similar soil profile characteristics. This soil can further be described as a well-drained, medium acid (pH 6.0), clay loam underlaid by weathered sandstone and shale.

The vineyard is considered Region I with regard to climatic conditions.[9] Annual rainfall varies from 25" to 70" a year, and the vines must be frost-protected at least three or four times per season (an additional 3.0" to 3.5" of water/year). Thus, both environmental and soil conditions capable of causing B deficiency exist in this vineyard.

Soil B levels were between 0.2 ppm and 0.4 ppm prior to the initiation of this study in 1986. Petiole B levels measured 27 ppm at bloom during the 1986 growing season. This is considered less than adequate with respect to B critical levels currently used in California.[1,3]

During the winter of 1986-87, B was applied as Solubor® (≅68% B_2O_3) in a herbicide spray at the rate of 10 lbs/acre. Bloomtime petiole B levels in 1987 (25 ppm) did not respond to this initial application, so a second soil application of B was made during the winter of 1987-88. Therefore, all vines in this study (control and treated) received two soil applications of B over a two-year period (Table I).

Table I. Soil and Foliar B Fertilizer Treatments

Treatment	Soil Application 1986 + 1987 (lbs B_2O_3/acre)	Foliar Application 1988 (wks from budbreak)
Control	10	none
Foliar 1	10	0 and 4
Foliar 2	10	2 and 4
Foliar 3	10	4

In 1988, three pre-bloom foliar applications of a 0.02% B (≅15g solubor/15L H_2O) solution combined with a wetting agent (≅1 oz/15L H_2O) were tested. The B solution was applied with a backpack sprayer to three 20-vine replicates per treatment in the spur-pruned vines and to one 20-vine replicate in the cane-pruned vines.

Foliage was thoroughly wetted during each application (≅7L/20 vines). Vines were sprayed at approximately budbreak (when shoots are 2" long), two weeks past budbreak, and four weeks past budbreak.

Treatments consisted of vines which were sprayed at budbreak and two weeks past budbreak, at two and four weeks past budbreak, and at four weeks past budbreak (Table I). Vines which had received soil B treatments in 1986-87 and 1987-88 served as control vines.

In order to determine the effects of the B fertilizer treatments on vine B status, samples of leaf blade tissue were taken at bloomtime from treated and control vines and analyzed for B. In 1988, B levels in leaf blades from the spur-pruned control treatment were above the deficiency range (20 to 40 ppm), reflecting the two previous soil B applications in 1986 and 1987 (Table II).

Table II. Effects of soil and foliar B applications on spur-pruned Pinot noir vines. (X±se)

Treatment	Blade B (ppm)	Cluster wt (g)	Yield (kg/vine)
Control	66±5	46.0±4.4	2.7±0.6
Foliar 1	75±3	45.5±15.3	2.9±1.0
Foliar 2	71±7	62.3±5.6	3.0±0.9
Foliar 3	80±4	55.7±4.0	3.0±0.2

In 1988, bloomtime B levels in control vines of 66 ppm were more than double the ≅26 ppm found in petioles in 1986 and

1987. This indicates that the soil B applications were effective in raising vine B status after two years. The three B foliar treatments resulted in slightly higher blade B levels compared to the soil applications in the control vines (Table II).

Vines sprayed with the 0.02% B solution within two weeks of budbreak (Foliar 1) showed some (>10%) marginal leaf burn and leaf cupping within two weeks of the first application. These symptoms are characteristic of high B levels. Thus, caution must be exercised with regard to solution B concentrations and the extent of coverage when making B foliar applications immediately after budbreak.

The Foliar 2 and 3 treatments increased cluster weights in spur-pruned vines compared to the control and Foliar 1 treatments (Table II). Yield per vine, however, was similar in the B foliar treatments and the control treatment (Table II). This may have been partially due to the response of the control vines to the previous B soil treatments as indicated by blade B levels (Table II).

This vineyard has also been infected by phomopsis cane and leaf spot for at least three seasons. As a result of the phomopsis infection levels in the spur-pruned vines, a small percentage of the vines have been converted to cane-pruning to remove infected wood, thereby increasing the health of future fruiting wood.

In cane-pruned vines, blade B levels were increased two to three times by the foliar treatments compared to the control treatment (Table III). The B level in the control treatment (32 ppm) was marginal according to present standards.[3]

Table III. Effects of soil and foliar B applications on cane-pruned Pinot noir vines.(X±se)

Treatment	Blade B (ppm)	Cluster wt (g)	Yield (kg/vine)
Control	32	30.5±6.5	2.1±0.4
Foliar 1	104	57.4±10.9	3.1±0.7
Foliar 2	103	58.4±5.4	5.0±1.2
Foliar 3	67	55.0±8.0	4.2±1.0

Cluster numbers tended to increase with the B foliar treatments compared to the control treatment. There are indications that, besides affecting pollen viability and fruit set, B may also influence the maintenance and/or abortion of grape clusters[2] and other fruits.[7] Similar to the effects of phosphorus on vine reproductive development[6], increasing vine B status may have resulted in more clusters being maintained until harvest.

In addition to increasing cluster numbers in cane-pruned vines, the B foliar treatments also increased cluster weight compared to the control treatment (Table III). Since B is not mobile within low B plants, direct applications of B to clusters may improve the B status within developing flowers resulting in increased flower viability, better fruit set, and an increase in cluster weight. Yield per vine was also increased in the foliar treatments compared to the control treatment (Table III).

Overall, the greater response to the B foliar treatments in the cane-pruned vines may have been due to the presence of a greater number of non-diseased and fertile buds compared to the phomopsis-infected and potentially sterile buds of the spur-pruned vines.

The larger number of healthy buds and shoots in the cane-pruned vines compared to the spur-pruned vines may have resulted in an increased demand for B during the critical pre-bloom period. If so, this demand appears to have been met by the B foliar sprays, resulting in a greater number of larger clusters at harvest.

Conclusion

The soil and foliar application of B fertilizer to 10-year-old Pinot noir vines resulted in increased B levels in leaf blades compared to B levels in previous seasons. Cluster weight and yield/vine tended to be increased in vines which received foliar B applications in addition to soil-applied B.

The largest positive responses to the foliar B applications were obtained in cane-pruned vines compared to spur-pruned vines. However, this may have been partially due to the relative severity of a phomopsis infection in the spur-pruned vines compared to the cane-pruned vines. The foliar application of B at two and four weeks past budbreak was the most effective treatment with regard to increasing cluster weight and yield in cane-pruned vines. ■

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Boron Deficiency

Steve Price, Viticulturist
Oregon State University

Vineyards in Oregon's Willamette Valley had serious problems with boron deficiency in 1988. This problem caused significant crop losses in a vintage when there was a strong demand for grapes.

The Willamette Valley has a history of boron-related problems in several crops. Research at Oregon State University (OSU) has recorded responses to boron applications in pears, cherries, prunes, and hazelnuts. Mid-season boron deficiency symptoms are commonly seen in Oregon vineyards.

Petiole boron levels at bloom are generally low, and many growers routinely apply foliar boron with their early mildew sprays. In 1988, a set of deficiency symptoms developed which had not occurred before in Oregon.

The first problem was an unusual weather pattern. The fall of 1987 was one of the driest on record. Fall rains, which usually start in late September or early October, did not come until mid-November. Most Willamette Valley vineyards are not irrigated and vines stressed from a warm summer were defoliated due to the drought in October and November. In the spring, the weather at budbreak was cool and the soils were very wet.

In April, 1988, several growers reported both a delay in budbreak and retarded shoot growth. Later, these symptoms became more noticeable and more growers reported abnormal shoot growth. The disorder occurred mainly on Pinot noir and was widespread throughout the Willamette Valley.

An investigation by growers, wineries, and OSU came to the conclusion that these conditions were caused by temporary, early-season boron deficiency.

This disorder was first described by M.M. Barnes in 1958.[1] It has occurred in California on several occasions since 1958. Typically, it occurs in the spring following a dry fall on sites that have low soil boron levels. Vine symptoms in Oregon in the spring of 1988 matched the published descriptions of early-season boron deficiency.[2,4]

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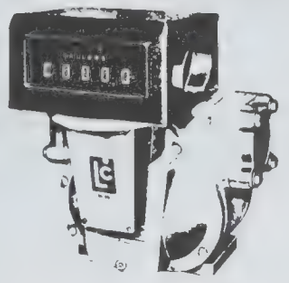

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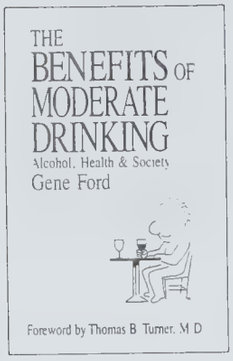

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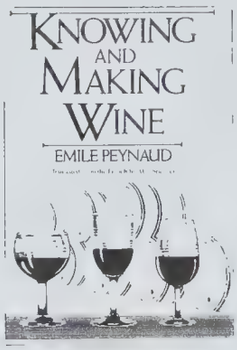

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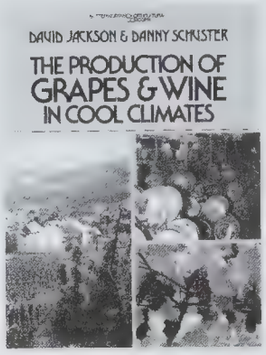

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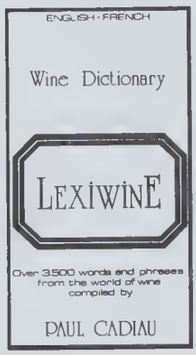

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In affected vineyards, budbreak was erratic. Shoots did not elongate and became rosette-like with five or more small leaves on shoots less than one-inch long. Internodes were compressed and the shoots grew in a zigzag pattern.

Spur-pruned, cordon-trained vines were affected more than cane-pruned vines. The basal shoots on cane-pruned vines were affected more than shoots farther out on the cane. The varieties showing the most severe symptoms were Pinot noir and Pinot gris. Because there are very few vines on rootstocks in Oregon, the disorder was only found on self-rooted vines.

Late-pruned vines were generally not affected. In some vineyards, where only a portion of a block was pruned late, the difference between early and late-pruned vines was dramatic.

Cuttings for nursery production taken from affected vineyards did not root well and had high loss rates. There is a strong demand for Pinot noir and Pinot gris planting stock, so this disorder caused a serious setback to the nursery industry and to vineyard development plans.

Stunted shoots began to grow when the weather warmed. Those only mildly affected grew normally, but rosetted shoots did not elongate and developed many vigorous laterals. By mid-season, the vines were growing normally, but an inspection of the basal internodes revealed a compressed zigzag pattern.

Some clusters on affected shoots aborted before bloom. Cluster counts were reduced up to 50% in affected vineyards. Most growers applied at least two Solubor® sprays before bloom, but fruit set was very low, nonetheless. Cold, rainy weather during bloom also reduced fruit set, so the relationship of set to boron deficiency was not clear.

Shoot samples taken three weeks after bud break were very low in boron. Affected shoots had about 8 ppm B whereas normal growing shoots on affected vines were about 17 ppm B. Shoots in unaffected blocks had about 27 ppm B.

Petiole samples at bloom were not good indicators of this disorder. Vineyard blocks with and without symptoms could not be separated by petiole boron levels. Early- and late-pruned sections of the same blocks had identical boron levels at bloom despite dramatic differences in deficiency symptoms.

This phenomenom has been observed in prunes, where midsummer leaf boron levels did not correlate with boron levels in bud tissue soon after bud break. In this case, early season boron deficiencies were reduced by fall foliar sprays of boron.[3,5]

At OSU, we have initiated a project to learn more about this disorder in grapes. The primary objective is to determine the most effective way to raise boron levels in dormant buds and new shoots. We do not know how effective fall sprays will be for grapes, what effect pruning has on boron levels, or how and when boron moves in the vine. With the answers to these questions we should be able to give more appropriate recommendations for dealing with early-season boron deficiency. ■

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TASTING ROOM SALES

Tom Davis, sales manager at V. Sattui Winery, St. Helena, CA has gift boxes for sale on display at the winery tasting bar.

Quiet Preparations for Success

Chris Rota

Relaxation and peaceful contemplation are essential after the fever of the harvest and the festivities of the holiday season. In January, when the winery owner/operator's mind is not fixed on some sandy beach in Hawaii or Mexico, it is trained on production and marketing plans that will carry the enterprise through the new year.

A substantial part of this focus belongs on the tasting room, where highly profitable, direct sales to the consumer are made and, more importantly, where lasting customer impressions of your winery are formed.

Alas, many wineries neglect this critical facet of their operations. More often than not, the tasting room is left to fend for itself while major resources are invested in markets beyond the winery's door.

Indeed, in the world of winery tourism, the dawn of the new year is the time for quiet preparations, a time to make your tasting room better, more efficient, and more profitable. In this and subsequent articles, I will address issues pertaining to the successful utilization of tasting rooms and suggest some courses of action.

A good plan begins with reasonable goals—*i.e.*, numbers—and continues with questions and ideas about how to attain those goals. Set a goal for annual case sales, then divide that into monthly goals in a way that reflects your busy cycles.

Sales analyses and projections should also be done by item. In this way, you can identify your best-selling wines and those that are most profitable, and establish a better product/profit 'mix'.

For example, if your 'House Red' is selling like hot cakes while your highly profitable Cabernet Sauvignon only sells occasionally, more attention obviously needs to be paid to promoting the Cabernet Sauvignon.

Another important statistic is the Customer Average, which is obtained simply by dividing total sales revenue by the number of customers. The goal here is to encourage each customer to spend more in your tasting room and to enjoy doing it.

Once these numbers have been established, it's a good idea to present them to your staff so that they not only agree with your intentions, but feel they have a stake in the project. Being an integral part of your plan will elicit in your staff a positive and active approach to the job at hand.

Ask your staff for ideas and input. You will be amazed at the sound advice you will receive. You may even want to institute a bonus plan or point system, whereby employees are encouraged to meet or exceed monthly or quarterly sales goals.

Once the numbers are in place, plans and courses of action follow naturally. When no thought is given to the 'numbers', plans and ideas are formulated from guesswork and are much harder to come by.

How To Realize Your Goals

As in successful retailing, projects must be geared to attracting more customers, for reasons other than their desire to discover and taste your wines. Plan special events like barrel tastings, competitions, dances, picnics, etc.—whatever your imagination can conjure up to bring people in and send them away with solid brand awareness. The spinoff from such events can be spectacular, particularly when they are in keeping with the style and personality of the brand.

To guarantee maximum attendance and effect, these special events must be well-promoted, with press releases sent not just to local tabloids, but also to media in nearby major population centers.

The word can also be spread through local and regional radio 'bulletin boards'. The idea here is twofold: to create an interesting story line on your brand for wine writers and to give day-trip wine enthusiasts a specific reason to visit your winery.

Another attention-getter (even though one's mailbox is already stuffed with them) is a newsletter. While few are read in great depth, most are at least scanned, which places the winery's name and products in front of consumers and trade people on a regular basis. This fosters familiarity, interest, and, eventually, sales.

Be sure to send your winery newsletter to every hotel, car rental agency, tour and travel agency, and convention/visitor's bureau in your area as well as to those in major cities nearby. And remember: the beginning of the year is the ideal time to plan a year's worth of stories, news releases, and winery events.

Maximize Your Tasting Room Space

Now is also the time to examine the tasting room space and to draw a detailed diagram of the placement of shelving, floor displays, tasting bar, chairs, wall displays, etc. By walking the floor yourself and by watching your customers, you can determine where the ***pause points*** are and where the ***pilferage points*** may be. You then can merchandise the space accordingly.

For example, one of the 'hottest' selling spots in a tasting room is the area directly in front of the tasting bar, where the customer, glass in hand, views displays of the wines being sampled and/or gazes up at a wall covered with awards the winery has won at tasting competitions.

Which is the more effective presentation? A tasteful display of your wooden gift packs by the tasting bar may prove more profitable, while the medals could be placed in a display case on a back wall. Take the time to walk around your tasting room with the eyes of a visitor to see what will work most profitably for you.

Train Your Staff in Product Knowledge and Selling Skills

A weekly training course for tasting room staff—one with no specific entry level—should be devised and implemented. There should be exercises, required reading, and tastings that include competitive, even imported, wines. The idea is to give your staff a broader knowledge of other comparable wines, so that they can discuss them competently when visitors, particularly those from the east coast, ask questions and make comparisons to European wines.

The more knowledgeable your staff, the more credibility they will have when discussing your winery's philosophy, techniques, and products. Tasting room personnel should know the history and local color of your area, so they can tell the quality story of your wines and describe how they are unique.

You should walk the winery tour route, inspecting for points of interest and visual 'cue cards'. Your visitors probably have seen barrels and stainless steel tanks before, but many may not be familiar with the history of your region, winery, and winemaking philosophy. Work historical references, humorous anecdotes, and a mention of current trends into your presentation.

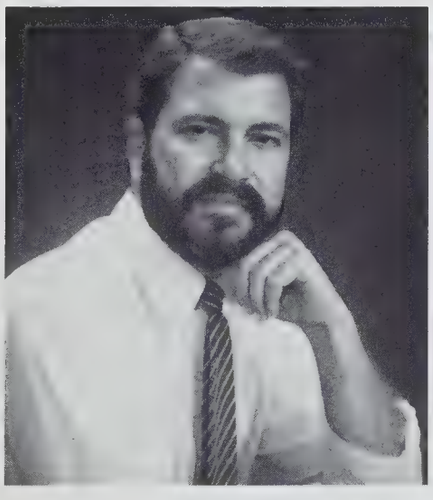
Finally, it is important to skillfully make the transition from conducting a tour and imparting winemaking information to leading visitors to the sales room. Have staff practice this by role-playing, listening to demonstration tapes, and constructively critiqueing the current methods employed.

During these weekly sessions, selling skills must be enhanced. Work on leading the dialogue gently and pleasantly into the buying mode; handling the bottles and placing them into the customer's hands; closing the sale and trading the customer up in price or into a multiple sale so that a Win-Win situation results.

You can't wait until the end of May to make these preparations. The plan for 1989 must be made now, step-by-step, starting with the numbers and then coordinating all the programs, activities, and people into an orchestrated, well-timed effort. Only when there is a coherent plan can there be a unified direction.

It is comforting to know that there are a number of marketing companies and sales training firms that can help you realize the plans and achieve the goals developed during these months of quiet preparations. ■

(Chris Rota is a wine marketing consultant and can be reached at Word of Mouth, Inc. 707/431-8131.)



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WINE LABELS

New package (right) shows new label on a standard bottle.

NEW IMAGE FOR BOUCHAINE

Winona Wendth

Bouchaine Vineyards' new label, due on retailers' shelves in February, marks the end of seven years of financial and marketing frustrations. It also represents Bouchaine's modification of its winemaking philosophy and commercial identity. According to Bouchaine president Eugenia Keegan, the new packaging is an integral part of a ten-year master plan affecting most aspects of the winery's administration.

The new label, designed by the Oakland firm of Walcott-Ayers & Shore, is an open and airy piece, a radical departure from the two more formal, elegant, and understated labels Bouchaine used for their 1981 through 1985 vintages. Keegan describes the change as a move from "the pristine toward the 'appellation-responsive' "—a concept at the heart of the Carneros winery's new image.

The new design cost Bouchaine $20,000 in research and implementation, but Keegan believes the winery will recoup that cost within four years.

A Host of Problems

Bouchaine's novel first package—a gold label combined with non-standard bottle shape and antique green color—was the choice of one of the winery's original partners, who wanted high brand identity and an elegant image.

"Clearly, that was achieved," says Keegan. However, although the bottles looked good on the table, they were a failure on retail shelves and presented several practical problems.

The non-standard bottles with a base diameter of 88mm instead of the usual 82mm required non-standard cartons and non-standard 4-foot X 4-foot pallets at the winery. Retailers could not easily stack the bottles. Also their dark color masked the visual differences between the red and white wines and confused both merchants and consumers.

The labels themselves created production and marketing problems. The gold-coated paper, inked at the mill, took up to six months to produce and bubbled and stretched on the bottles because it could not 'breath'.

The design required such careful printing that it was out of register often enough to require reprintings. The black lettering did not adhere to the paper well and easily scuffed into unreadability. In addition, the masculine gold and black label combined with the dark, heavy-bottomed bottle allowed potential consumers to mis-identify the product as a distilled spirit or sparkling wine.

"It was really unbearable," recalls Keegan. By the time the wines were shipped out of the winery, Bouchaine had spent an additional $3.50 to $4.00 per case for their unusual packaging.

A Search for Solutions

In an attempt to correct some of these problems, Keegan and her staff abandoned the non-standard bottle for a normal dead-leaf green burgundy bottle. Not yet wanting to alter the winery's image radically, they kept the gold label, although its placement on a different bottle shape and color seemed to change its appearance. Trade response to this mainstream packaging was very good.

The change in bottle color and shape solved some problems, but it created others. Although Bouchaine's Pinot Noir and Chardonnay were more easily differentiated, the colors of label, bottle, and wine—particularly the Chardonnay—did not harmonize.

Despite working through some 20 modifications of the package, including use of a different labeling machine, winery staff were unable to determine the right combination of design elements.

Meanwhile, the principals at Bouchaine were making major administrative changes, including consolidation of ownership and modifying their winemaking philosophies and techniques under the guidance of a new winemaker, John Montaro. By the time they had reorganized and determined their new approach to vinifying Carneros appellation wines, they recognized that they had effectively created a new winery. At this point, Keegan decided to make a radical change in packaging as well.

Keegan wanted the new graphic statement to be elegant but less formal. Additionally, she wanted the packaging to reflect the vigorous California attitude indicated by the Carneros appellation. Further, she wanted to lower production costs while enhancing brand identity.

Success At Last

Bouchaine's new, largely cream-colored label is lighter and longer. It retains the original "Bouchaine" lettering, but highlights it in two ways: the lettering is shadowed and placed on a light background, making it appear bolder and larger, and, it is moved down to the center of the label on a lavender and gold-edged bar that seems to float in front of the piece and dominate it.

The six-color label features gold foil ruling, most noticeable along the inside of the mottled border, and places the vintage date in a highly-readable position near its top. The designer introduced green and lavender in and around the dominant lettering, brightening and highlighting the logo without making it overly busy, delicate, or feminine. One of the last colors Keegan expected to see on the label was lavender, but she is greatly pleased with it.

Expressing a strong American attitude, Bouchaine has dropped the term 'Chateau' from its name and packaging. Instead, the label features 'Estate Reserve', 'Carneros', and 'Napa Valley' as identifying nomenclature. Keegan believes that terms like 'clos' and 'domain' are often inaccurate and confuse the consumer.

The capsule, its top embossed with a gold 'B', and the bottle's small back piece, required primarily for BATF and UPC information, repeat the mottling on the label and unify the overall design. The predominant neutral color works well on the standard burgundy bottle Bouchaine uses for both Pinot Noir and Chardonnay.

Walcott-Ayers & Shore determined the final design only after considering many factors, including production line equipment and staffing, as well as ink, coating, and paper qualities. Keegan quickly abandoned one tentative design when she recognized that it would require extra people on the bottling line.

Although the winery staff preferred a textured label, they vetoed 'elephant hide' paper for a printed texture because dimpled paper does not hold ink or show embossing well. The new label passed a test of 1,500 scuffs, not uncommon in the course of bottling, storing, and serving a bottle of wine.

Keegan and the designers are convinced that paper produced specifically for labels is the best insurance against the bubbling, peeling, molding, and pasty disintegration that can result from various wine storage conditions. Keegan estimates a 20% reduction in bottling costs with the packaging changes.

The final design is not what Bouchaine management had in mind at the beginning of the process, but considerable self-examination, research, and professional advice from a variety of sources, from bottling personnel to printers, convinced Keegan and her staff that it was what they needed. Keegan also emphasizes the value of the 'on-the-spot' responses various proposed designs elicited from staff, colleagues, retailers, and consumers.

Bouchaine's new packaging and image have generated "an unbelievably positive response" among distributors, Keegan asserts. She also reports that the new design has contributed to a great improvement in winery efficiency.

"The new packaging," Keegan says, "marks the end of a major economic trauma for Bouchaine." ■

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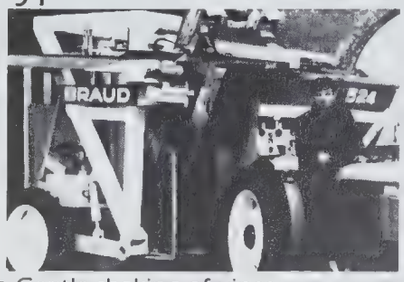

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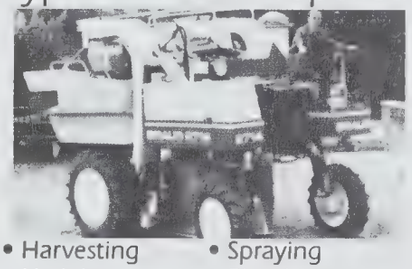

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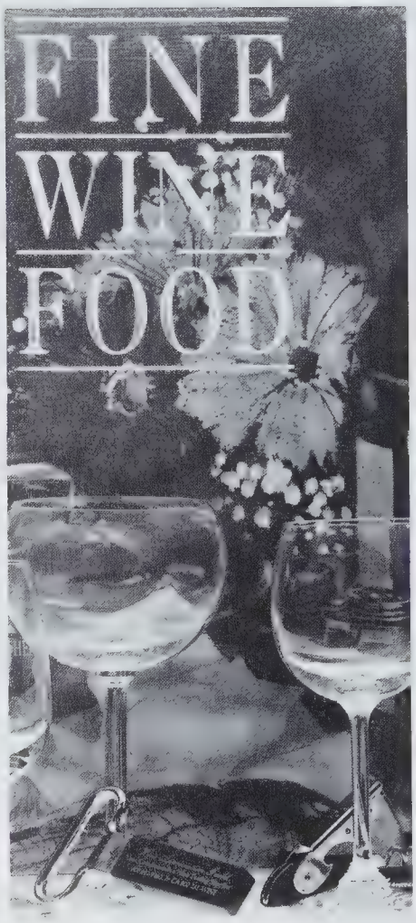

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MARCH 11, Saturday

Advanced Tasting Seminar Emphasizes the judging qualification tests currently required by many wine competitions. **Location:** University Club, UC Davis. **Fee:** $120 (includes lunch), pre-enroll by March 3.

MARCH 20-22, Monday–Wednesday

White Table Wine Processing An advanced review amd research update for winemakers. First two days include lectures by members of the Dept. of Viticulture & Enology. Final day will include tastings designed to illustrate production variables that define wine style. **Time:** 9am–4:30pm, Monday, Tuesday,; 9am–3:30pm, Wednesday. **Location:** Room 1B, 170 Medical Sciences, UC Davis. **Fee:** $250 (includes lunches), pre-enroll by March 14.

APRIL 21, Friday

New Directions in Winemaking In the 11 years since fair trade was abolished, the California wine industry has changed, with a reduction in wholesalers and distributors, a major increase in the role of chain stores in wine marketing, and important shifts in consumer profiles and buying habits. Past and projected changes in the wine trade will be examined as they impact fine wine and sales. Sales methods that will fit the 1990's will be identified. **Instructor:** Dan Wilson, wine marketing consultant and publisheer of *Scorecard* and *Gameplan*. **Time:** 9am–4:30pm. **Location:** Meadowood Hotel, St. Helena, CA. **Fee:** $120 (includes lunch), pre-enroll by April 14.

APRIL 22–23, Saturday + Sunday

Introduction to Sensory Evaluation of Wine An introductory class to improve critical tasting ability which includes a structured introduction to basic aspects of sensory evaluation. **Instructor:** John Buechsenstein, winemaker, McDowell Valley Vineyard. **Time:** 9am to 4pm. **Location:** University Club, Old Davis Road, UCD. **Fee:** $225 (includes lunches), pre-enroll by April 14.

APRIL 29, Saturday

Successful Small Scale Winemaking For advanced home winemakers; eight different lecturers will discuss: Production of small lots using minimal equipment; Yeast and malolactic strains; Pinor noir; Viognier; Chardonnay; Sparkling wine; Zinfandel; Cabernet Sauvignon; Riesling. A tasting of all wines discussed is included. **Time:** 9am–5pm. **Location:** University Extension Center, UC Davis. **Fee:** $70 (includes lunch), pre-enroll by April 21.

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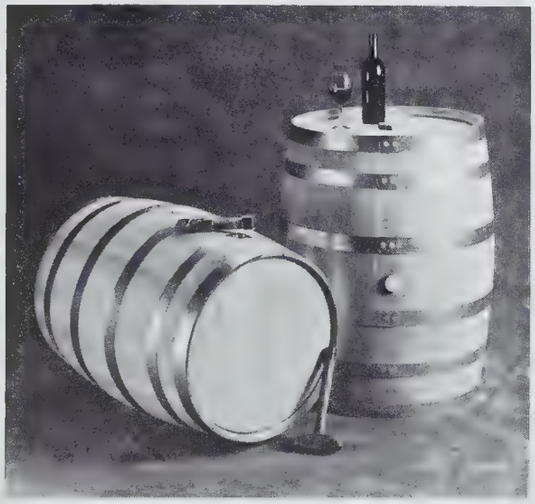

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Comparing Young and Older Wines with Food

Since many in the wine business select foods to accompany newly-released wines, it's easy to forget that wines change with time. Foods and wines that are harmonious today may not be so compatible in three or four years. Barbara Lang, who served as culinary director at Inglenook Vineyards in Napa Valley, CA, offers her thoughts on foods which might work well with wines as they age.

White Wines

When I think of older California white wines, I think primarily of Chardonnay. Other California whites generally don't age as well as Chardonnay does.

No matter what their style, California Chardonnays will be slightly more acidic in their youth, even if they've been barrel-fermented or have gone through malolactic fermentation. The younger Chardonnays that are not barrel-fermented or put through malolactic fermentation are lean in style, and therefore complement foods that have less fat, such as seafoods or poultry.

When Chardonnays are young, you can take advantage of their acidity and fruit. The acidity brings out different flavors in foods the same way a squeeze of lemon might. You should avoid serving young, lean Chardonnays with cream sauces or fatty foods.

Barrel fermented Chardonnays that have completed malolactic fermentation will complement full-flavored, rich foods because of their own full flavors and rich texture. With age, these Chardonnays may develop a slightly maderized quality, which lends a nutty, acidic flavor to the wine.

These rich, aged Chardonnays can even stand up to foods with strong flavors and textures, such as lamb chops, game birds, strong wild mushrooms, or pasta dishes prepared with cheese. The intensity of flavor older Chardonnays develop during ageing also allows the use of pungent herbs like rosemary or sage in cooking.

Red Wines

The flavors in an older red wine are usually very subtle and it's easy to overwhelm them to the point where they lose their varietal identity. Thus, the food should be toned down to be-

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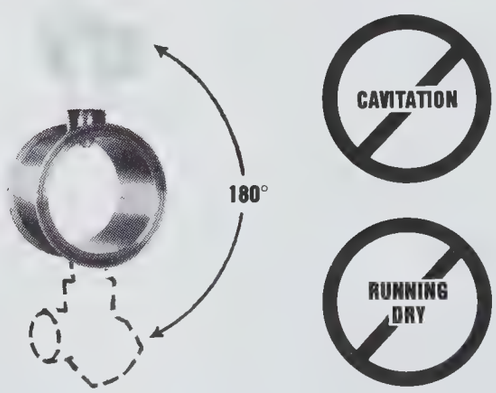

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come more one-dimensional (but not bland). If you do use a sauce in cooking, a stock reduction would be more appropriate than a complex sauce with diverse flavors. (A younger wine, however, can compete with more diverse and more assertive flavors, since it has more intensity.)

Marinades – There's no need to marinate meat for a long period when you're pairing it with an older red wine. The added acidity of a marinade will not help the older wine; in fact, the food should become a backdrop. When serving an older red wine, you should select better cuts of meat which do not need marinating. If you do marinate, it should be with oil and aromatic herbs, because you don't need the tenderizing effect of vinegar or wine.

Richly flavored foods with some tartness or piquancy help curb the aggressiveness of a young red wine. Generally, a marinade is used to tenderize a lesser cut of meat going into a ragout or stew, and it also lends a complexity of flavors. A young red wine can stand up to these assertive flavors, which serve to balance its youthfulness.

(To illustrate this principle, Lang served a young Zinfandel with a lamb dish. She prepared one piece of lamb marinated for a day, and another piece without a marinade. The marinated meat went better with the young Zinfandel, for the reasons stated above. The plain meat, with its pure and simple flavors, emphasized the young wine's harshness, and was not as compatible with it—there was nothing to serve as a foil to the wine's youthfulness. With an older wine, however, the plain meat served as a backdrop. The wine's subtle qualities came forward, whereas they might have been masked by a marinated piece of meat).

With Cheese – Cheeses with a generous amount of butterfat also work well with young red wines, since butterfat softens tannins. Younger, more robust, tannic reds welcome assertive, strong-flavored cheeses such as American Tilsit, aged cheddars, or ripened goat cheeses. Mild, aged, slightly nutty cheeses, such as aged Yakima Gouda or Cougar Gold from Washington State, are more compatible with older red wines—again, they serve as a backdrop to the wine. In general, Cabernet Sauvignons and Pinot Noirs, which have a more herbal, earthy quality, seem to work better with cheese than do fruitier, more berryish wines such as Zinfandel and Merlot.

Dessert Wines

Dessert wines are another category where the idea of younger vs. older comes into play. A Muscat (like a Chardonnay) will maderize slightly as it ages. Some people find maderization to be a real fault, but a slight sherry-like quality can lend more complexity to certain wines.

The first rule of matching desserts with wines is to make the dessert less sweet than the wine. Maderization allows you to add elements of sweetness, such as caramel, to a dessert. You might try a caramel coating on the bottom of a flan, or drizzle caramel into the dessert. The caramel flavor should not be the focus, but rather an added component.

Sauternes and blue cheese work well together because you have a high percentage of sugar to balance a high percentage of salt. Young Muscats, with 5 to 7% residual sugar, do not have the degree of sugar necessary to carry the salt in the cheese. But when they've aged and have achieved a touch of maderization, they are perfect with blue cheeses.

I don't want people to accept this information as a set of rules supporting rigidity in pairing wine and food. Variables forever occur, giving the activity of pairing wine and food its refreshing flexibility. Experiment! ■

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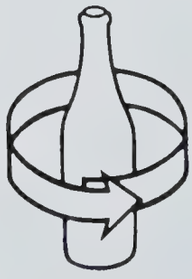

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Wine & Health

Continued from page 7

martyrs or California quarterbacks.

Fresh grapes boast generous levels of vitamin C, undoubtedly the most holy vitamin, but yeasts selfishly consume all of it before a new wine leaves the fermenter.

Representatives of the B vitamin group live in wine—more in red than white—but not plentifully enough to supply our daily needs. None of the fat-soluble vitamins (A, D, and E) can be found.

So, friends, if you want to see in the dark, squelch Linus's colds, bury beriberi, or thwart the yapping dogs of pellagra, you'd better serve some supper along with your Pinot Noir. (I suppose we could promote light 'breakfast wines' as an enjoyable way to rinse down that multi-vitamin tablet.)

Minerals: The Right Stuff

Most fruits provide abundant potassium, and grape wine is a rich source of this mineral, as well as of other trace elements. Red wine contains enough iron to be helpful, although not enough to be a sole source. Welcome as these attributes are, wine is probably most nutritionally helpful for the mineral it ***doesn't*** contain: sodium.

Our national diet includes an overload of salt, and most of us should cut back. For some adults with heart problems and high blood pressure, it becomes critical to curtail salt. Yet, have you ever sampled a 'one-gram sodium' diet? Most patients prefer swollen ankles.

Wine can make a bland diet come alive with intriguing flavors without recourse to the salt, grease and sugar Americans crave. Too many doctors use guilt and diuretics to solve a nutritional problem easily addressed with a corkscrew.

Interactions With Other Foods

Beyond augmenting flavors, wine also favorably influences the absorption of various nutrients from other foods. Wine alters the way our body handles cholesterol, skewing metabolism toward the protective *high density* form in our bloodstream. We will explore wine and food interaction in future columns.

Fiber Art

Indigestible fiber, while not strictly a food (since it's not assimilated), certainly has earned a warm welcome in the colons of modern America as a hedge against hemorrhoids, diverticuli, and cancer.

Never fear, a bottle of premium wine can serve as an excellent source of dietary fiber. Simply shred the cork in your Cuisinart and sprinkle it over bran muffins. After soaking off the elegant label, drape it artistically over a wilted spinach salad. ***Bon Appetit.***

Conclusion

Wine definitely is a food. True, it's nowhere close to being nutritionally complete, and it contains no elements which can't be obtained from some other source. Wine remains a unique food in the personal harmony it brings to a meal and its unparalleled ability to add flavor and interest to other foods.

Wine makes a well-balanced diet leap from the merely sensible to the predictably wonderful. ■

As a pediatrician, Dr. Shoemaker makes his living teaching young people what makes a well-balanced diet. As a nutritionally aware winemaker at Salamandre Cellars in Aptos, CA, he reserves the term 'eating it' to describe his marketing efforts.

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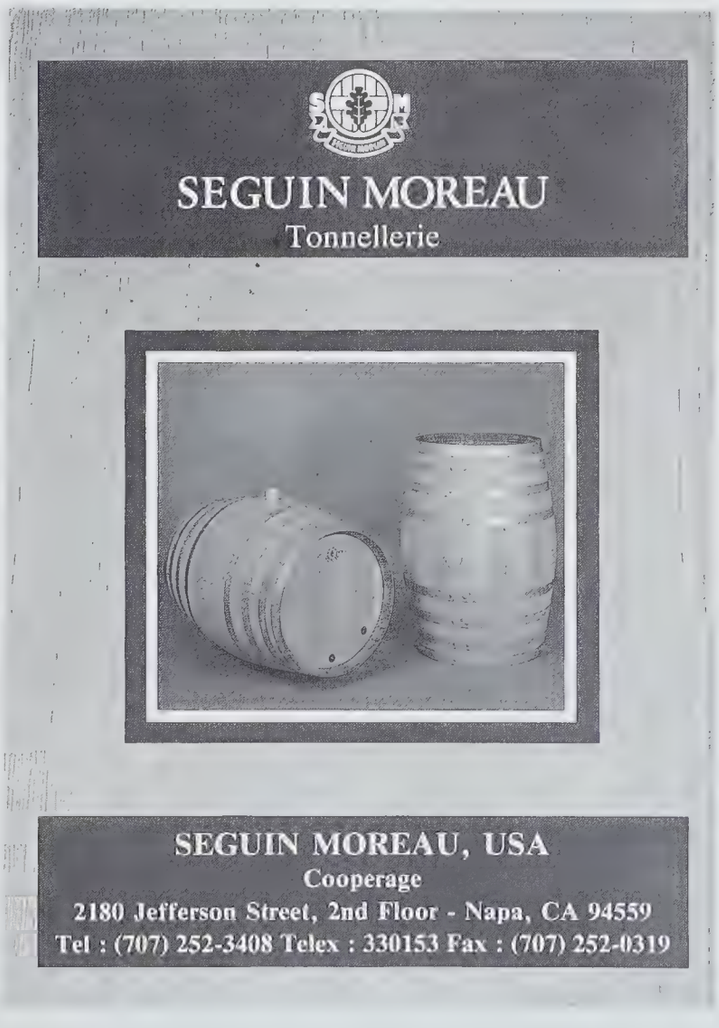
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ADVERTISER PRODUCT/SERVICE INDEX

ARCHITECTS
Hall & Bartley 32

BARREL BROKER/Cooperage Supplies
Barrel Builders,Inc. 23,53
Boswell Company 41
Demptos Napa Cooperage . . 35
Independent Stave Co. . . . 47,53
Innerstave 19
Seguin Moreau 51
Scott Laboratories,Inc. 3
Tonnelleries de Bourgogne . . 49
Tonnellerie Francaise 36
Tonnellerie Radoux 30
Tonnellerie Vicard 16

BOTTLES (Glass)
ENCORE! (Sterilizing/Sales) . . 50

BOTTLING EQUIPMENT
The Compleat Winemaker . . . 36
Euro-Machines Inc. 45
fp Packaging 6,43
Jagla Machinery Co. 22
KLR Machines,Inc. 21
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29
Scott Laboratories,Inc. 3
SEN Machines,Inc. 11

BOTTLING SERVICES (Portable)
Chateau Bottlers 50
Estate Bottling 50
Mobile Wine Line 13

BULK WINE BROKERS
Vintners Edge 26

CAPSULES
Cork & Seal of CA, Inc. 22
KLR Machines Inc. 21
Lafitte Cork & Capsule Co. . . 39
Ramondin USA Inc. 47
Scott Laboratories,Inc. 3

CENTRIFUGES
Centrico,Inc. 2
Process Engineers,Inc. 25

CHEMICALS
The Compleat Winemaker . . . 36
Criveller Co. 9
Pickering Winery Supply . . . 123
VINQUIRY 48

CLEANING EQUIPMENT/SUPPLIES
The Compleat Winemaker . . . 36
Electro-Steam Generator Corp. 33
Euro-Machines Inc. 45
Key Industrial Associates 54
Pickering Winery Supply 23

CLOSE OUT/CASED GOODS
Vintners Edge 26

COMPUTER SERVICES
Data Consulting Associates . . 53
Pickering Winery Supply 23
Winery Computer Systems . . 32

CORKS
Cork & Seal of CA,Inc. 22
KLR Machines,Inc. 21
Lafitte Cork & Capsule Co. . . 39
Pickering Winery Supply 23
Scott Laboratories,Inc. 3

CRUSHER-STEMMERS
The Compleat Winemaker . . . 36
Euro-Machines Inc. 45
KLR Machines,Inc. 21
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29
SEN Machines,Inc. 11

DEJUICERS
fp Packaging 6,43
KLR Machines,Inc. 21
Process Engineers,Inc. 25

ENGINEERING SERVICES
Hall & Bartley 32
Oneto & Arthur Engineering . 53
Richard W. Onstenk,Inc. 53
Storm Engineering 53

ENZYMES
Criveller Co. 9
Scott Laboratories,Inc. 3

FILTER EQUIPMENT
The Compleat Winemaker . . . 36
Criveller Co. 9
KLR Machines,Inc. 21
Pedia-Kreyer USA,Inc. 56
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29
Scott Laboratories,Inc. 3

FILTER MEDIA
KLR Machines,Inc. 21
Process Engineers,Inc. 25
Scott Laboratories,Inc. 3
WITCO Chemical Corp. 33

FINING AGENTS
ETS Laboratories 8
KLR Machines,Inc. 21
Scott Laboratories,Inc 3
SEN Machines,Inc. 11

FITTINGS (Stainless Steel)
The Compleat Winemaker . . . 36
Criveller Co. 9
Euro-Machines,Inc. 45
JV Northwest Inc. 41
Key Industrial Associates 54
Process Engineers,Inc. 25

GRAPE HARVESTERS (Mechanical)
Euro-Machines,Inc. 45

HEAT EXCHANGERS
James Breese & Co. 10
KLR Machines,Inc. 21
Pedia-Kreyer USA,Inc. 56
Power Refrigeration Co. 55
Process Engineers,Inc. 25
Scott Laboratories,Inc. 3

HOSE
The Compleat Winemaker . . . 36
Key Industrial Associates 54
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29

IMPORT/EXPORT
Vintners Edge 26

IRRIGATION EQUIPMENT
Accor Technology, Inc. 10
Rain Bird Sales,Inc. 31
Wyatt Irrigation Supply Inc. . . 53

LABELS (Design)
Blake Printery 26

LABELS (Printing)
Blake Printery 26
Fine Arts Graphics 16
Gordon Graphics 49

LABORATORIES (Materials/Wine Analysis)
ETS Laboratories 8
Scott Laboratories,Inc. 3
VINQUIRY 48

LEGAL COUNSEL
Corbin Houchins 54

LIQUID LEVEL/FLOW MEASUREMENT
John F. Coyle 39
Monitor Manufacturing 48

MALOLACTIC BACTERIA
ETS Laboratories 8
Pickering Winery Supply 23
Scott Laboratories,Inc. 3
VINQUIRY 48

MARKETING
Guerrilla Marketing Intr'l 50
Word of Mouth,Inc. 46,51

NURSERY
Schloss Tucker-Ellis 53

PRESSES
The Compleat Winemaker . . . 36
Euro-Machines,Inc. 45
fp Packaging 6,43
KLR Machines,Inc. 21
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29
Scott Laboratories,Inc. 3
SEN Machines,Inc. 11

PROCESS CONTROL SYSTEMS
The Compleat Winemaker . . . 36
Monitor Manufacturing 48
Process Engineers,Inc. 25

PROCESS PIPING
JV Northwest Inc. 41
Key Industrial Associates 54
Process Engineers,Inc. 25

PROMOTIONAL MATERIALS
Blake Printery 26
Gordon Graphics 49

PRUNING EQUIPMENT
Euro-Machines,Inc. 45

PUMPS
The Compleat Winemaker . . . 36
Criveller Co. 9
Euro-Machines,Inc. 45
Key Industrial Associates 54
KLR Machines,Inc. 21
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29
Scott Laboratories,Inc. 3

REFRACTOMETERS
The Compleat Winemaker . . . 36
Scott Laboratories,Inc. 3

REFRIGERATION/COOLING
James Breese & Co. 10
KLR Machines,Inc. 21
Pedia-Kreyer USA Inc. 56
Power Refrigeration Co. 55
Power Refrigeration Parts Co. 50

REPROCESSING OF CASE GOODS
Decanter USA, Inc. 38

SPARKLING WINE EQUIPMENT
The Compleat Winemaker . . . 36
Cork & Seal of CA,Inc. 22
Process Engineers,Inc. 25
Prospero's Equip. Corp. . . 28,29

SPRAYING EQUIPMENT
Euro-Machines,Inc. 45

SULPHITE TEST KITS
CHEMetrics 9

TANKS (Metal)
Criveller Co. 9
Euro-Machines,Inc. 45
JV Northwest,Inc. 41

TASTING ROOM SUPPLIES
Wine Appreciation Guild . . . 46
Word of Mouth,Inc. 46

TRELLIS SUPPLIES/INSTALLATION
A & P Ag Structures,Inc. 17

VALVES
The Compleat Winemaker . . . 36
Key Industrial Associates 54
Process Engineers,Inc. 25

VINEYARD CONSULTING
Paul W. Skinner 30

WAREHOUSING/DISTRIBUTION
Groskopf Warehouse 27

YEAST
The Compleat Winemaker . . . 36
Criveller Co. 9
ETS Laboratories 8
Scott Laboratories,Inc. 3
VINQUIRY 48

Classified ads are on page 50.

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Guerrilla Marketing

Personality of a Successful Guerrilla

Jay Conrad Levinson

I've had the good fortune to work with many highly successful guerrilla marketers. Some ran the whole marketing show at firms listed in 'The Fortune 500'. Some inaugurated and built their own small but lucrative businesses. Still others worked in marketing companies that helped other firms attain obscenely high profits.

All these guerrilla marketers, both the grey-haired executives and the tow-headed entrepreneurs, had five personality traits in common. I believe that unless you are blessed with these characteristics, you have two strikes against you in the wine marketing game.

However, if you do possess these traits, or at least can develop them, you're more than halfway home. If you don't or can't, I assure you of marketing gloom, doom, and frustration. It is very tough to win out over competitors who exhibit the following qualities:

Patience: Because it takes so many penetrations of the human mind to move a person from a state of total apathy toward your wines to a state of purchase readiness, a great deal of time (and perhaps money, for multiple exposures) is necessary for marketing to take hold.

Experts say people must absorb your message nine times before they are motivated to buy. They remind us that for every three times you put out the word, via signs, ads, commercials, etc., your prospects will not even notice your marketing two of those times. That means you require the patience to make 27 attempts to sell.

Most businesspeople feel they are doing something wrong if they don't achieve success after the first five or six attempts. So they switch media or messages or format or themes. This results in 'sellus interruptus' and the sale is never consummated. The solution to the problem is ***patience***.

Imagination: Of course, you need imagination in your message, labels, copy, and art, but it also must be exercised in your timing, media choices, research, distribution, signage, wine names, carton design, direct mail, and more.

For example, instead of putting a 25-cent stamp on a letter, put on eight stamps: one $.06, two $.04, one $.03, and 4 $.02. The total is still 25 cents, but the envelope is impossible to ignore. Guerrilla marketing at its purest.

Sensitivity: You must be sensitive to your market, the moment in history, the time of year, the economy, current events, and the trends of the day. You must also be sensitive to the intelligence level of your audience.

Instead of attributing to it the mentality of a 12-year-old, as was once thought to be the case, figure your audience has the brains of your mother. As you know, she was/is one smart cookie. You can't convince your mother to purchase something in which she has no confidence. It will be the same with your public. Your marketing sensitivity will earn their confidence.

Ego Strength: The first people to tire of your marketing will be your employees, followed by your associates, your family, and your friends. These people will unwisely counsel you to change your marketing, because they are bored by it.

However, your prospects are not bored, so you need a strong ego to stand up to those who love you the most, but offer such poor marketing advice. Hug these people, but don't let them talk you into changing your marketing. Be assured, your prospects and customers will never be bored.

Aggressiveness: Be aggressive in both your thinking and your spending. The average U.S. business invested 3% in marketing in 1987. Aggressive guerrillas invest anywhere from 5% to 15% or even more. And they are always thinking marketing. That aggressiveness must apply not only to your marketing budget, but also to your marketing weaponry.

There are 100 guerrilla marketing weapons. Aggressive wineries utilize 50 or more of them. Most wineries only employ three or four. If the aforementioned personality traits describe you, so can the words 'success', 'guerrilla', and, hopefully, 'billionaire'. ■

(Jay Conrad Levinson is the author of "Guerrilla Marketing" and publishes "The Guerrilla Marketing System and Newsletter." For free data, call toll-free 800-621-0851, Ext. 140.)

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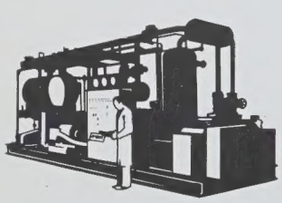

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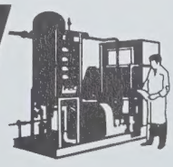

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